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April 27, 1970

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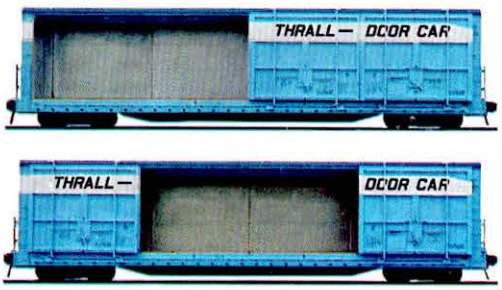

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April 27, 1970 • Vol. 168, No. 9

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Inside

CHANGING AN ASSIGNMENT

A newspaper editor once remarked that any reporter worth his salt could be expected to come back every time with the story he was sent to get. But the reporter who caught the editor's eye was the one who came back with a story he *wasn't* sent after. That anecdote came to mind when Mechanical Editor Fred Houser returned from a trip to a Bethlehem Steel mill at Bethlehem, Pa. Fred was to have brought back a story on a fleet of 100 gondola cars which the Lehigh Valley had assigned exclusively to the movement of Bethlehem's ingot molds to five mills. He had that story, but he also had one about another fleet assigned exclusively to the steel producer—150 Trailer Train flat cars with special deck hardware. Called finger-rack cars, they are used to ship bundles of steel reinforcing bars. The two stories seemed to illustrate how railroad equipment more than ever before is being designed to meet the special needs of shippers. They were combined into the report which begins on page 30.

GIANT DISTRIBUTION CENTER

Joe Kizzia, former executive editor of Railway Age and now the editor of Metrolines, the magazine distributed to passengers aboard the Penn Central's high-speed New York-Washington train, was driving to Salt Lake City from Ogden with the Union Pacific's Clarence Rockwell, when Rockwell pointed out the window. "Those old buildings there, off to the right," Rockwell said, "are part of the old Navy depot now called Freeport Center. It must be about the biggest distribution center in the country. I know we move a lot of cars in and out of there, and so do the other roads. It's a fantastic success story."

While Rockwell was talking, Joe was scribbling notes on the back of an envelope (some of the best stories Joe has done have been developed from notes scribbled on envelopes). When he returned to New York, he dropped a note into Railway Age's story hopper. Word was sent to our Chicago office: "Check out Freeport Center for a possible story."

The result was a trip to Freeport Center by Associate Editor Bob Bartley, who brought back the story of how the Navy's huge depot was transformed after the Korean conflict into what very probably is the country's largest distribution center, with 6.5 million square feet of space under roof (p. 38).

METROLINER SETS ANOTHER MARK

It's a small item, perhaps, but against a background of charges that railroads are attempting to discourage passenger traffic, it seems interesting that Penn Central went out of its way to make the public aware that the Metroliner this month carried its one-millionth passenger. A ticket computer identified the passenger, a sales executive, and PC made his ride from New York to Washington more pleasant than usual.

In four years coal production will increase 100 million tons.

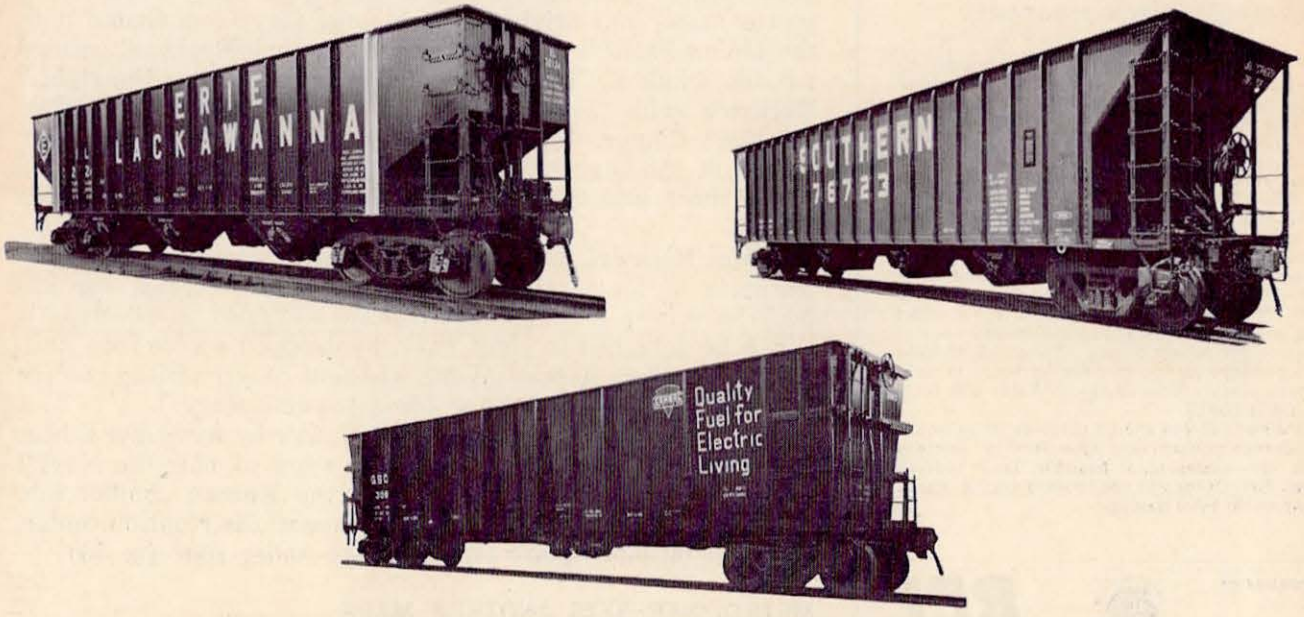
That's the forecast. Even with unit trains and fast turn arounds, many more cars will be needed to handle that traffic. Coal hauling railroads are already considering this in their planning. The variety of cars envisioned is reflected in recent Greenville designs:

High-sided gondolas with rotary couplers for unit train service.

Triple and quadruple cross hoppers for unit trains or for general service uses.

Rapid bottom dump equipped with longitudinal doors.

With new coal fields opening up, more railroads than ever will be involved with this major hauling problem. If your road is one of them, it's time you talked with Greenville. Regardless of your needs, Greenville has the cars for the job. Let's get together and discuss them.



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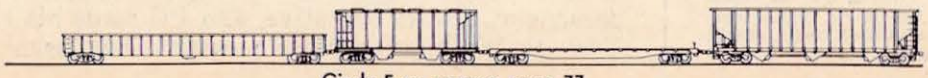

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APRIL 27, 1970

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Short and Significant

PASSENGER TRAFFIC

LONG RIDE FOR PASSENGER-AID BILL?

The Senate Commerce Committee has approved a bill authorizing $435 million of aid to railroad passenger operations, and there is some chance the bill will be quickly passed by the Senate. Before the Senate votes on the bill, it wants an indication from the White House of what kind of passenger proposal the Administration wants. The position of the White House, Commerce Committee sources say, will influence the fortunes of the Committee's bill, and the White House is believed to favor a smaller initial subsidy. After the Senate vote, the bill must go through the House, where the passenger-aid issue is still under consideration by a subcommittee.

METROLINER CARRIES ONE-MILLIONTH RIDER

Penn Central's ticket computer identified Roger P. Kniering of Stamford, Conn., as the Metroliner's one-millionth passenger, and PC saw to it that Kniering made the trip in comfort. A secretary from the road's Philadelphia headquarters, Louise Menna, was drafted into service as a hostess for the day (April 20) and when Kniering arrived in Washington, a PC limousine was waiting to take him on his rounds. Director of food service sales for R. J. Reynolds, Inc., Kniering was given memorabilia of the occasion—a plaque, a Metroliner medallion and a set of N-gauge Metroliners. A. P. Funkhouser, PC senior vice president-passenger sales, accompanied him on the ride from New York.

THE INDUSTRY

SANTA FE, HUSKY OIL TALK AFFILIATION

Feasibility studies are under way, covering a possible affiliation of Santa Fe Industries and Husky Oil Ltd. Husky Oil is an integrated oil company with production, refining and marketing facilities based mainly in the Rocky Mountain area of the United States and in the central and western provinces of Canada. Husky also has interests in offshore exploration and drilling and in steel fabrication centers.

ST. LOUIS CAR HAS "LARGEST BACKLOG"

With orders on the books for 123 double-deck commuter cars for use on Illinois Central and 240 subway cars for New York, St. Louis Car Division is working on "the largest order backlog in its history." First deliveries won't be made until late this year, however. And, notes W. Ashley Gray, Jr., president of parent General Steel Industries, "sales and earnings will not show the considerable impact of these orders until 1971 and 1972." St. Louis Car is also under way with a diversification program—which includes present construction of jumbo-jet passenger-loading bridges and superstructures for the Verta-Pak automobile carrier, and upcoming renovation of 50 rail commuter cars. Overall, Gray told GSI's annual shareholders' meeting, the company hopes to hold earnings near 1969 levels, despite a lower volume of sales. GSI showed an operating loss in first-quarter 1970. But while best earnings had come during the first half of 1969, management had previously forecast that 1970 earnings would be concentrated in the second, third, and fourth quarters.

TRANSIT

NORTH WESTERN WANTS FARE INCREASE

Chicago & North Western is the third of the Chicago area's five major commuter roads to go before the Illinois Commerce Commission with a fare-increase proposal. C&NW is asking for a 6% boost. Burlington Northern and Illinois Central also have cases pending—BN for an average 5% increase, IC for increases which would produce a 20% boost in commuter revenues.

NEW TRANSIT FIELD FOR ROHR?

Rohr Corp., aerospace-equipment manufacturer and holder of the contract for 250 cars for BART, may make another move in the surface-transportation field. Rohr is considering acquisition of the Flxible Co., of Loudonville, Ohio, manufacturer of city transit and intercity buses and vans. If a deal goes through, Flxible would become a wholly-owned subsidiary of Rohr.

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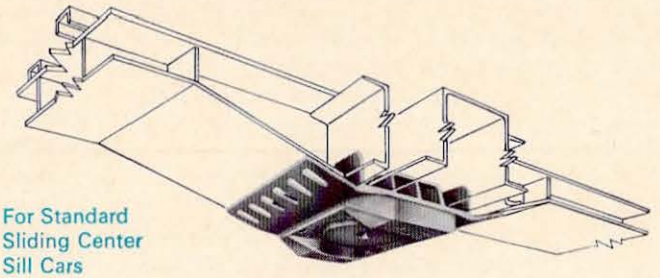

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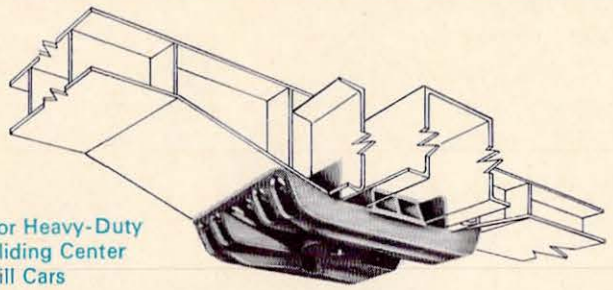
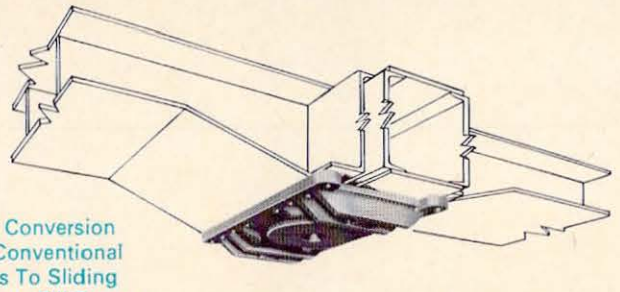


For Heavy-Duty Sliding Center Sill Cars



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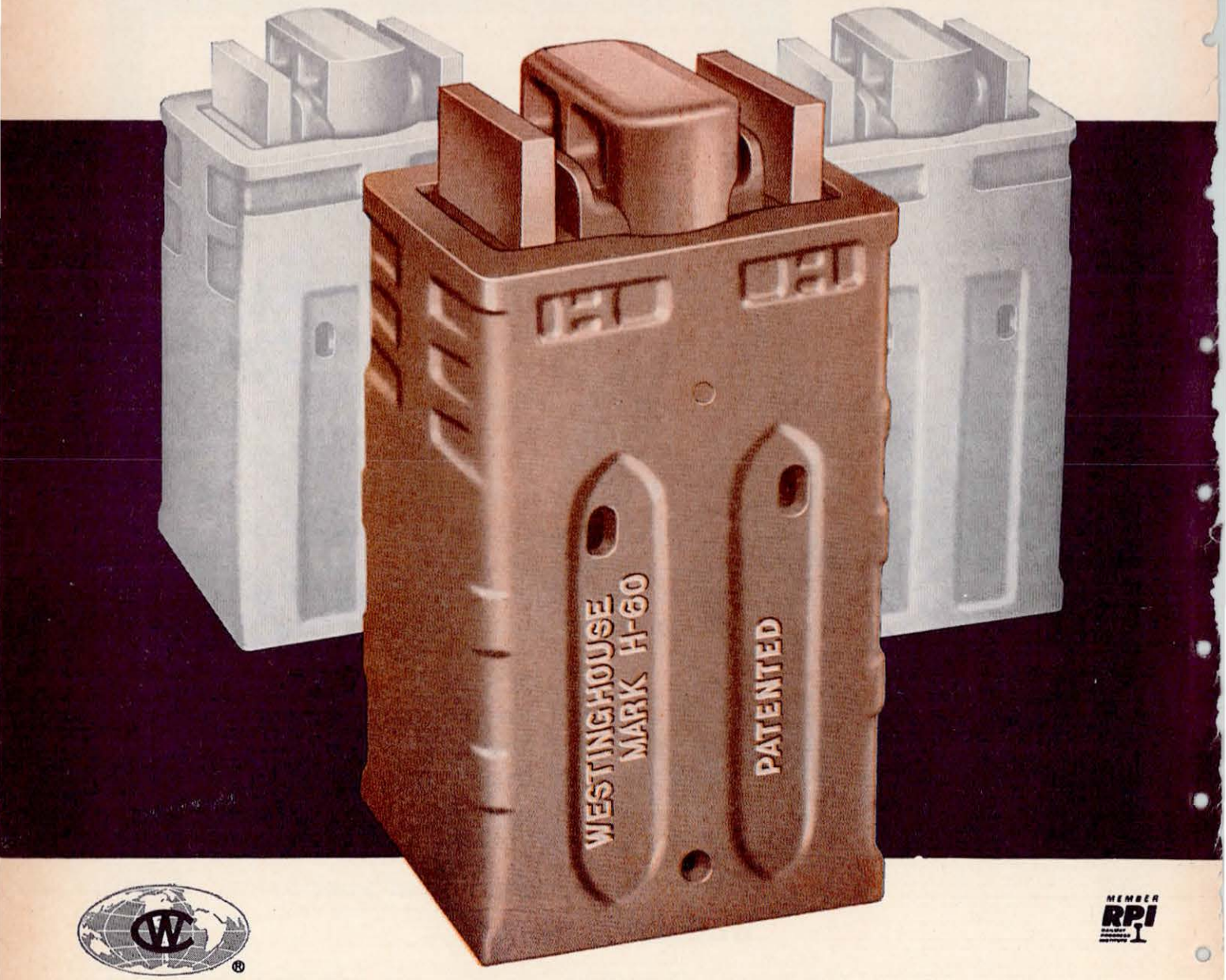

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RAILWAY AGE NEWS

Piggyback: Victim of a labor mess

Railroad TOFC/COFC operations during a good part of April might best be described as being in the midst of a muddle. Teamster/trucker management/labor affairs were anything but settled—and the spill-over effects were hurting piggyback operations, notably in the St. Louis and Chicago areas.

As truck strike/lockout threats were waved about, "national" negotiators reached an apparent settlement. Teamster and independent negotiators in Chicago, however, balked at the terms and arrived at a better settlement with some companies. The result: Some Chicago-area motor-carrier operations continued, but many didn't. TOFC/COFC moves involving truckers in the "better-settlement" category were not much affected, nor were interline-rail TOFC/COFC operations. But an embargo was placed on movements involving motor carriers affected in the strike/lockout situation.

Meanwhile, transportation people were taking a long look at the likely impact of the Teamster bargaining. The so-called "national" agreement added up to an increase of $1.10 per hour in wages over three years. But the Chicago agreement upped the pricetag to $1.65 per hour. Three years ago, a similar situation developed—and it was the higher Chicago settlement which prevailed. One logical conclusion: Truck freight rates are going to go up, soon, and maybe by a substantial amount.

Southern's shortcut reduces transit time

Southern has begun service over its new $8.5 million shortcut between Jacksonville, Fla., and North Platte, Wis. The daily service utilizes pooled locomotive power of the Southern, Missouri Pacific and Union Pacific and bypasses classification yards at Macon and Atlanta, Ga. The new route reduces the distance between Jacksonville and Birmingham by 75 miles.

The new route is part of the Georgia Northern Railway, a wholly owned subsidiary of Southern. Improvement of existing track and structures and construction of 8.8 miles of new line around Moultrie, Ga., cost $8.5 million.

N&W to build line to new coal mines

When a railroad thrives on one kind of traffic as much as Norfolk & Western does on coal, the question naturally comes up: What happens when the coal fields start petering out?

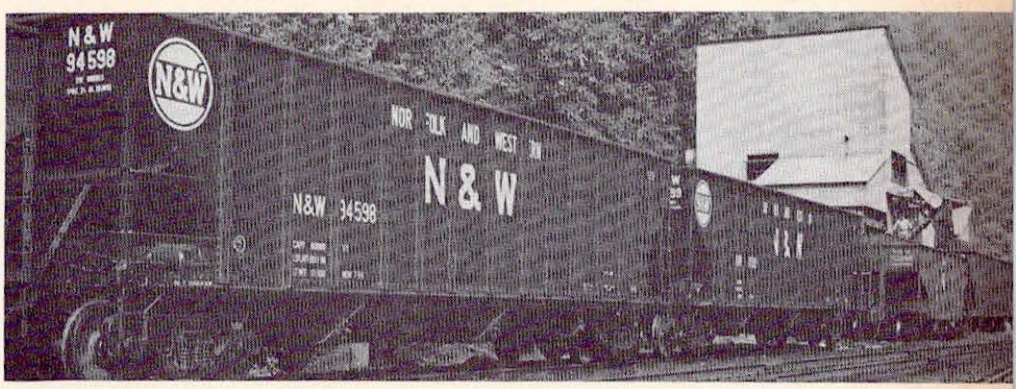
N&W's answer is simple: Find new coal fields and build new lines to serve them.

It is easier, of course, to pursue that answer if you already own land full of untapped coal resources.

Such considerations are behind N&W's announcement that in June the railroad will start building a new 24-mile line worth $22.4 million to serve planned new mines in Martin County, southeast Kentucky.

The first trains are expected to be running in April 1972, N&W says. Before they stop, the trains are expected to haul an estimated 280 million tons of high-volatile steam-type coal. For N&W, that will mean annual revenue of $18 million and annual net income of $4 million, after the fifth year.

Most of the land will be leased from N&W's own Pocahontas Land Co. by the mining firms—Martin County Coal Corp., Island Creek Coal Co., and a third firm not yet announced.



The new line will represent an attempt to compensate for traffic that will be lost from mines now being depleted. At a board meeting earlier this year, it was disclosed that N&W in the next three years would suffer a drop of six million tons annually from mines now in operation. However, N&W said that during the same period 19 new mines would produce 29 million tons annually, for a net gain of 23 million tons a year.

Martin County traffic alone is expected to grow from 1.5 million tons in the first year to eight million tons annually after the fifth year.

The first facility to be opened will be named the Pevler Mine after N&W's recently retired president Herman H. Pevler who will retain the title of board chairman. That mine alone is expected to produce two million tons each year. Most of that output will go to the Carolina Power and Light Co. Built by the Island Creek company, the Pevler facility will be followed by a second two-million-ton mine.

The Martin County company will also build a two-million-ton mine, to supply the Duke Power Co., in North Carolina.

Construction of the new rail line will involve seven bridges and a 1,700-foot tunnel, plus extensive grading. The mine branch will join N&W main-line track near Kermit, in southwestern West Virginia.

Total employment, including mines and satelilte operations, is expected to reach 3,000.

NEWS

Consumer group fights "vegetables and melons" rate

Although railroads won the first scuffle, they apparently haven't heard the last of a rate case known as "vegetables and melons." Court proceedings lie ahead in a case that, for a change, does not find shippers as opponents. In this unusual issue, shippers are on the side of the railroads. The plaintiff here is the consumer, and the outcome of this carrier-consumer confrontation could set a precedent for more such hassles.

A U. S. District Court in Washington, D.C., said March 30 that railroads could proceed in applying higher rates on shipments of vegetables and melons from western to eastern states. The Court affirmed a previous ICC decision.

The case, however, does not end there. On the contrary, it may just be getting started. All the Court did was refuse to issue a preliminary injunction while the validity of the increase is probed. The Court did not block the probing itself.

"We intimate," the Court said, "no findings or conclusions as to the merits of this case." And it is precisely on the merits that opponents are proceeding, even though the rate-increases went into effect April 13.

The challenge now faced by the 27 railroads involved, along with the Western Growers Association, goes beyond the question of additional costs to consumers to absorb the rate increases. Opponents also are attempting to show that the increases are based on violations of Elkins Act prohibition against quiet rebates to customers and Sherman Act antitrust prohibition against rate agreements between competing carriers.

Specifically, the agreement under attack provides for "market decline" payments by railroads to shippers. These are a form of indemnity for losses caused by late delivery. Railroads admit the agreement was made, although it's not mentioned in the new tariffs. The ICC has said rails can justifiably pay damages on late schedules.

Railroads stopped making market-decline payments in 1964. They thought it would be less expensive to let such matters be handled in court. Court proceedings, however, turned out to be more costly than the out-of-court settlements.

The current agreement worked out between rails and Western shippers is aimed at restoring assured schedules—also dead since 1964—providing more equitable and often more economical rates on produce traffic, and achieving a stronger economic base for Western roads to maintain an adequate refrigerated-car fleet. The new rates are based solely on car size, rather than on previous formulas of weight and/or car size.

Because the underlying agreement was made "secretly," opponents charged, the rates represent a clear violation of the Elkins Act, which forbids unpublished rebates. And because the agreement was made on a matter that is not essential to rail operations, opponents add, the rates violate the Sherman Antitrust Act, which forbids agreements between competitors on matters not deemed essential.

Led by Washington attorney Jacob P. Billig, the opponents are represented by what is known as the Ad Hoc Committee on Consumer Protection, a coalition of 10 Washington area consumer, political and community groups.

Between March 18 and March 30, the Court denied a rail request for relief from the temporary ban on the increase. But by March 30, the Court seemed satisfied by a rail promise that extra provisions would be added to the new tariffs. The provisions were supposed to insure that a shipper would be charged for the size of the car *ordered*, regardless of the size delivered for use.

That issue provided the consumer group with another ploy. The rate-increase opponents charged in mid-April that the railroads really did not comply with the promise to add the provisions—the promise on which the Court based its lifting of the rate increase ban.

50-second car-wash working for C&NW

There are a number of contrasts between Chicago & North Western commuter trains and the private automobiles driven by Chicagoland commuters who haven't yet been weaned off the daily expressway or highway commute. One such contrast: C&NW's trains are cleaner.

At a cost of $183,000, North Western has installed a four-station car-washer which will do an 85-foot double-deck coach in 50 seconds—through water spray to "soaping," to scrubbing to rinsing. And C&NW's 275 suburban-service cars go through the washer once every three days.

Intercity passenger cars—the road still has 53—get the same treatment. And now, North Western is even taking in washing: Chesapeake & Ohio/Baltimore & Ohio trains using the C&NW terminal also get the suds treatment. The wash facility, part of a $3.8-million commuter-car-care center recently opened at the California Street coach yards, was designed and manufactured by Ross and White Co., of Wheeling, Ill.

Shopcraft dispute gets a solution

When Congress makes up its mind, it can act swiftly and decisively. It did both in heading off a shopcraft strike scheduled for April 11. The solution was the one proposed by President Nixon more than a month earlier—to impose terms of the agreement reached by negotiators and later approved in union-membership balloting by all but the Sheet Metal Workers (RA, March 30, p. 11).

Generally, members of the four shop unions respected the action by Congress. But there were scattered wildcat walkouts—most notably on Louisville & Nashville at Louisville.

The imposed settlement provides wage increases, in part retroactive to Jan. 1 of last year. It also includes the so-called "incidental work" rule, to which the Sheet Metal Workers objected.

For Congress, it was the second time around on the President's proposal. On the first go-round, the lawmakers merely delayed a confrontation and hoped for a voluntary settlement. But there was no settlement and, faced with a new strike threat, Congress acted to approve Mr. Nixon's plan—by an 88-3 vote in the Senate and by a voice vote in the House.

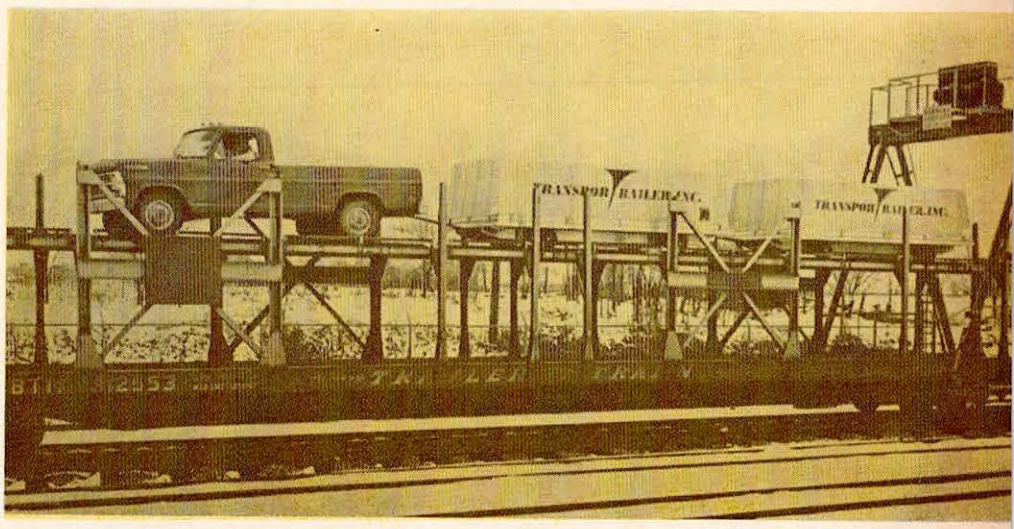
Thus, for the third time in less than 10 years, Congress was forced to move into a rail labor dispute with a forced solution. On two of these occasions, shop unions have been involved. And for calendar-watchers, there are now two new dates to mark: The four shopcrafts can re-open negotiations Sept. 1; no contract changes can become effective before next Jan. 1.

Burlington Northern places first orders

The nation's newest railroad has issued its first freight-car purchase order—to one of the nation's smaller carbuilders. Darby Corp. of Kansas City, Kans., gets the Burlington Northern order, valued at $1.4 million. Darby will build 100 100-ton open-top hopper cars for BN, with deliveries scheduled for July and August.

Total capital expenditures for BN in 1970 are now estimated at $73.3 million for equipment alone, covering commitments made by the constituent companies before merger plus the Darby order. On the books are orders for 63 diesel-electric units, 2,676 freight cars and 25 cabooses.

As BN Chairman John M. Budd sees it, this first BN car order holds a special significance—as an initial demonstration of "how the greater financial strength realized by merger will be used to improve service in the territory served by the new railroad." The new open-tops will be used to haul low-sulphur western coal to midwestern and eastern electric generating plants. As BN puts it, concern about air pollution "has attracted many users to low-sulphur coal mined in the West but once considered too far from market to warrant transportation costs. Lower unit-train rates have played an important role in expanding western coal's market area."



Intermodal container introduced

A new intermodal container is being introduced by TransporTrailer, a five-month-old company. The rubber-wheeled box has a usable area of 114 sq. ft. and a capacity of 10,000 pounds. Its molded fiberglass top, available in various heights to accommodate different volumes, provides a hermetic seal against weather. The company says the container can be pressurized, refrigerated, or evacuated. The containers can be stacked, and their boxes nested. Tri-level auto rack cars can carry 15 of the containers.

New power system devised for transit

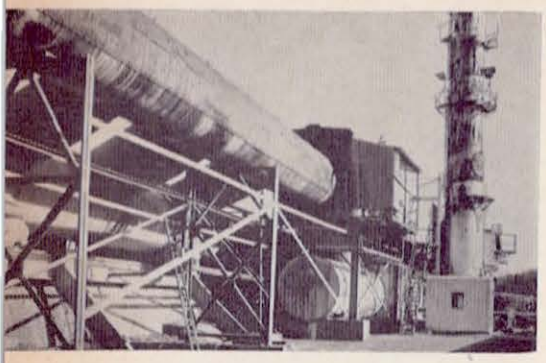
A rapid transit propulsion system which is said to provide smoother acceleration and deceleration and create lower maintenance and power costs has been developed by Westinghouse Air Brake Co.

The new system, WABCO says, is the first to utilize alternating current propulsion motors with a direct-current power source. While a transit car is moving, its motors can be coverted temporarily to generators. As the car slows, it generates energy which is transmitted back to the power lines. Power costs are thus reduced, and because the energy provided by the car's momentum is not dissipated in heat, air conditioning and ventilating loads are also reduced.

WABCO worked with Reliance Electric Co. to develop a solid state control technique which converts D.C. to A.C. energy.

NEWS

Car dismantling plant avoids air pollution



The Erman Corp., operator of what it calls "the world's largest railroad car dismantling plant," in Turner, Kan., has developed a superheated anti-air-pollution process for burning old freight cars down to their bare skeletons without spewing the countryside with bad odors, smoke or dangerous pollutants.

Erman's system is located in a 320-ft building with air curtains at entrance and exit to prevent smoke from escaping. It employs three huge manifolds into which the smoke from the burning cars is drawn. The polluted air is cooled by an exterior sprinkling system causing the solid pollutants to be suspended. Next, it is drawn into afterburners where another blast of fire at 2,000 degrees further distintegrates the particles. After additional cooling, the air passes through a water spray "scrubber" where any remaining residue is removed.

The Turner plant has a capacity for 100 cars a day and even at peak output, the pollution emitted is well below the level which the government will tolerate.

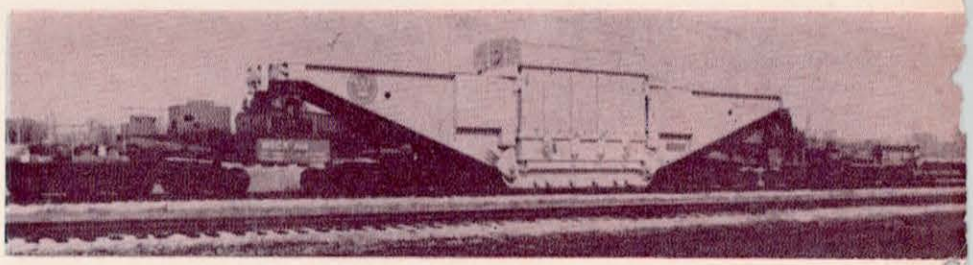
ICC plans hearings on PC trainoff plan

Following Penn Central's refusal to postpone its massive trainoff plan, the Interstate Commerce Commission said it will employ a two-step procedure to conduct all the necessary hearings in the legally-specified four-month-period ending Aug. 15. To hear the PC case *for* the discontinuance of 34 East-West trains, including the Broadway Limited, (RA, March 30, p. 13), ICC will hold hearings in Washington only—and only in Washington will cross-examination of PC testimony be possible. To hear the case *against* the trainoffs, ICC will hold hearings in 35 cities in the territories served by the trains in question. Those hearings will begin immediately after the Washington hearings are concluded.

After ICC invoked the prescribed four-month stay on PC's request for an April 15 discontinuance, ICC asked PC to wait even longer. PC refused, saying that waiting even four months will cost the railroad at least $3.2 million in direct operating expenses.

"Actually," says A. Paul Funkhouser, PC senior vice president-passenger service, "the cash drain likely will be greater, since passenger revenues on these trains are declining at an annual rate of 15% while wage and material costs are rising sharply."

Removal of the 34 trains, along with seven other east-west pairs now in discontinuance proceedings in court or at ICC, would mean the end of all PC long-distance service west of Buffalo, N.Y., and Harrisburg, Pa.



Westinghouse ships 410-ton transformer

After Westinghouse manufactured its three-phase generator transformer at the company's Muncie, Ind., plant, the problem was to get the huge machine to Duke Power Company's Oconee Nuclear Station. The transformer is 30 feet high, 47 feet long, 25 feet wide, and weighs 514 tons when assembled and filled with oil. To ship it, Westinghouse partially disassembled the transformer, reducing the weight to 410 tons, and loaded it on Westinghouse's Schnabel railcar. Overall length of the loaded car is 144 feet. Disassembling the transformer reduced the shipping height to 19 feet.

Highway program hits a roadblock

The Illinois Supreme Court has thrown out a 1969 law under which the state administration hoped to use a $2 billion bond issue to finance a new highway construction program. The law would have created a highway trust authority with power to issue the bonds without a referendum. Roads would be built by the state department of public works and buildings.

Administration legislative planners had patterned the highway authority after the existing state armory board and state building authority, which issue non-referendum bonds to finance construction of buildings which are then leased to the state. The Supreme Court, however, held that highways are not in the same category as buildings. Regardless of "leasing" arrangements, the Court said, the authority would be an extension of the public works and buildings department. It could not be considered as a separate entity, and the plan therefore was in violation of constitutional limits on state indebtedness which may be incurred without a referendum.

Illinois Gov. Richard B. Ogilvie—who had planned a 1,950-mile downstate supplemental-freeway system—reacted sharply, declaring that the Court's ruling "sets the state's road-building program back a decade."

Increased business has its drawbacks

For Rock Island, 1969 was another year of business improvement. Its share of rail freight traffic in the central western district increased from 9.58% to 10.62% in terms of on-line loadings and from 10.12% to 12.39% in terms of cars received. But, says Chairman and President Jervis Langdon, Jr., increases in loadings and revenues have not been able to overcome increases in operating expenses. And, there is this problem: "Rock Island's operating plant is obsolete, with millions of dollars of deferred maintenance going back many years, and economical operations are not possible. In fact, the sharply increased freight buisness on the Rock Island has accentuated the disabilities of its physical plant and made mandatory a complete rehabilitation and modernization." Langdon's conclusion: "Only massive infusions of cash which Union Pacific stands committed to advance—once the merger is approved—will save Rock Island and enable it to become a viable unit in a strong transportation system."

New Jersey boasts a new railroad

New Jersey's newest railroad is 23 miles long, operates mixed trains three days a week, has a locomotive fleet consisting of one diesel and two steam engines, is managed by the president of an airport—and expects to make a profit.

The road, the Black River & Western Railroad, operates mixed trains between Flemington and Lambertville, N.J., on track purchased (for $150,000) from Penn Central. It also runs steam excursion trains.

The two steam engines will serve as emergency replacements for the road's 600-hp diesel.

The road is a former Penn Central branch line, and the Penn Central agent at Lambertville will continue to handle billing and collection of freight charges.

Lines on Labor

GUS WELTY

IT'S TIME FOR A "REVIVAL"

Back in the bad old days—a decade or so ago—certain elements in rail labor had a real snappy comeback, when they wanted to give management a good hard put-down. Management would make its statement, on one subject or another, and quick-as-a-flash would label it "pure hokum." It's been years, or so it seems, since that phrase has rung throughout the land. But it's somehow appropriate that it now be revived—to describe the opposition to President Nixon's plan for laying to rest the shopcraft wage/rules dispute.

NIXON/CONGRESS CRITICS: HOW VALID IS THEIR CASE?

Reluctantly but overwhelmingly, Congress approved the President's proposal—which was to impose the settlement already agreed upon by negotiators for the railroads and for the four shop unions. But before Congress finally acted, the nation was treated to the kind of "argument" that might get a high school kid thrown out of freshman debate class. Twice during the 1960s, Congress had set up compulsory arbitration machinery in rail disputes where there had been little or no agreement at the bargaining table. Now, Congress was being asked to place in effect an agreed-upon settlement. Somehow, this came to be viewed as a worse move. It would represent, some complained, the first time Congress ever imposed contract terms. And if ever there were arguments that qualified as "pure hokum," well . . .

MOSTLY AT FAULT: THE NEW UNION POLITICS

It would appear that traditional "collective bargaining" in the railroad industry—perhaps in all transportation—is indeed in danger of being undermined. But it's not the President's fault, and it's not the fault of Congress. You can't even make much of a case in this instance for blaming the bargainers. You *can* blame the system. You *can* blame the old law which is hardly adequate to meet today's problems. You *can* blame the new climate in labor, in which rank-and-file members feel free to overrule their elected representatives and reject agreements made in good faith by their negotiators. The events of the past few weeks should be well-noted by the brotherhoods—by individual dues-payers as well as by officers. In the shopcraft case, the Administration acted forcefully. So did Congress, after one false start. Public opinion seemed to hold that the President and Congress did the right thing. Even the liberal New York Times and the conservative Chicago Tribune agreed. And what's it all mean? It means that sometime—sometime soon, though perhaps not in an election year—new labor law will be written.

Lease a bright idea from US

At United States Railway Equipment Company we lease bright ideas for better on-the-rails movement of all kinds of things. Like coiled steel cars, ingenious building materials flats, today-available insulated box cars, shared equipment cost and usage within split lease programs.

And our leasing programs let lessees kiss off the nagging problems of ownership, obsolescence, maintenance and tied-up money.

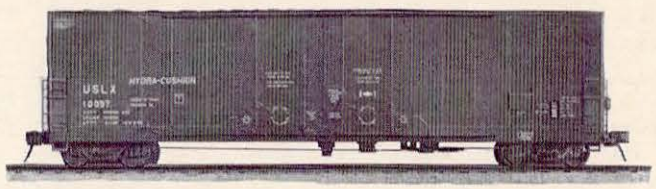
We also buy up old freight cars, upgrade or rebuild them and lease them back to their former owner. He gets like-new equipment and welcome dollars. We take on his ownership problems. Our customers agree it's more than a fair swap.

We handle maintenance programs, too, keeping freight car fleets in tip-top condition, which the "Finance Lease Only" boys can't do!

These are just a few of the bright ideas that are earning us more and more customers and friends.

If freight car ownership problems have you turned off, talk with us. Chances are we'll have ideas to brighten your life, too.

Immediately available: Coiled Steel Cars with lift-off covers



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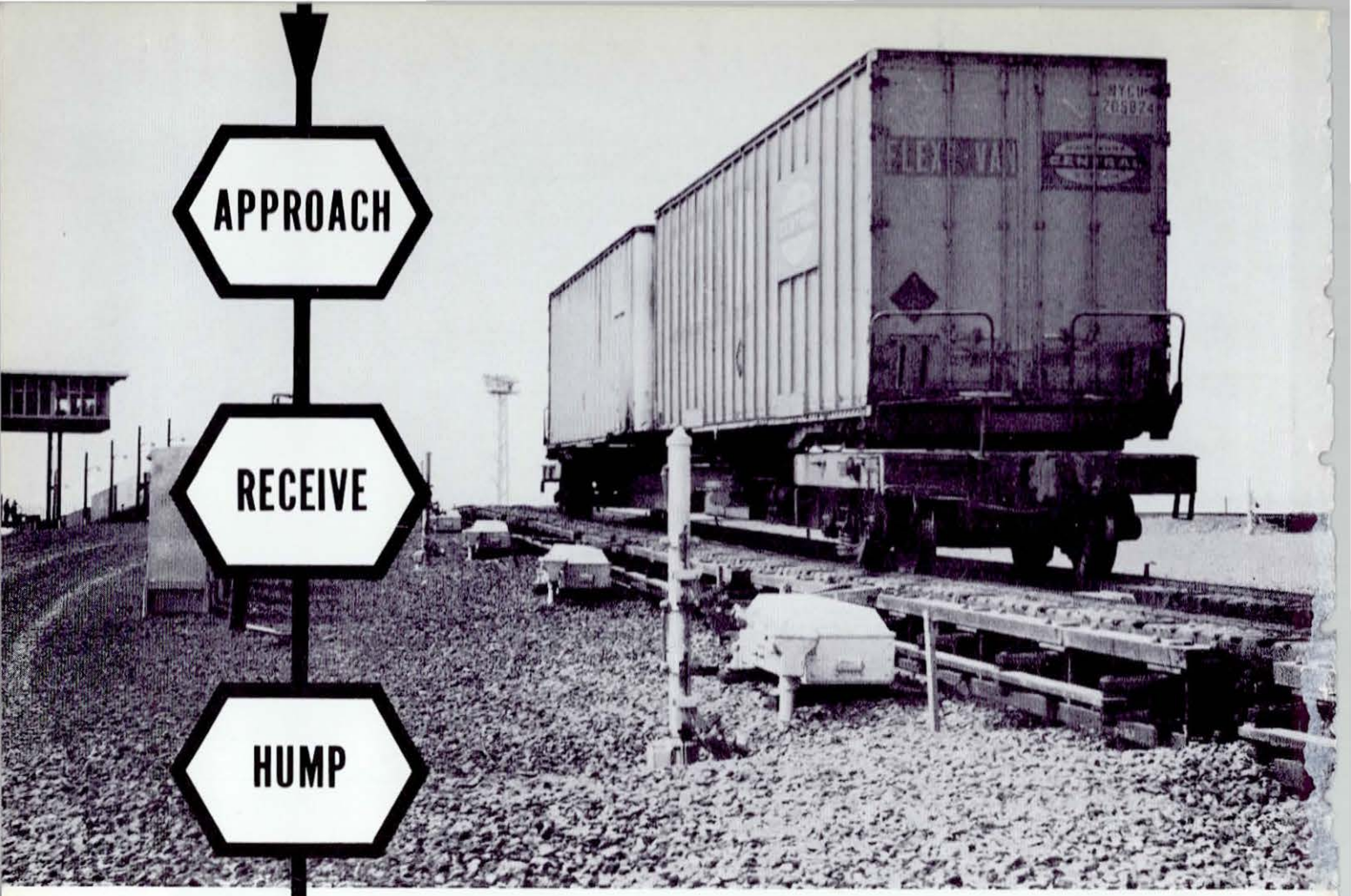

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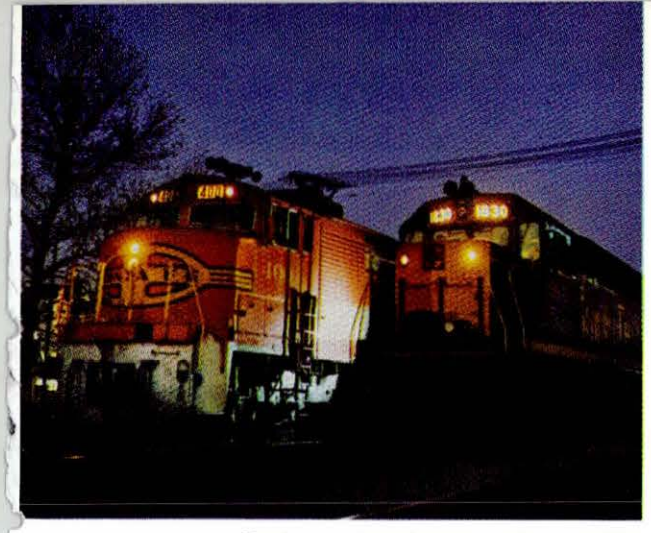
Noontime—racing through the heart of Illinois.

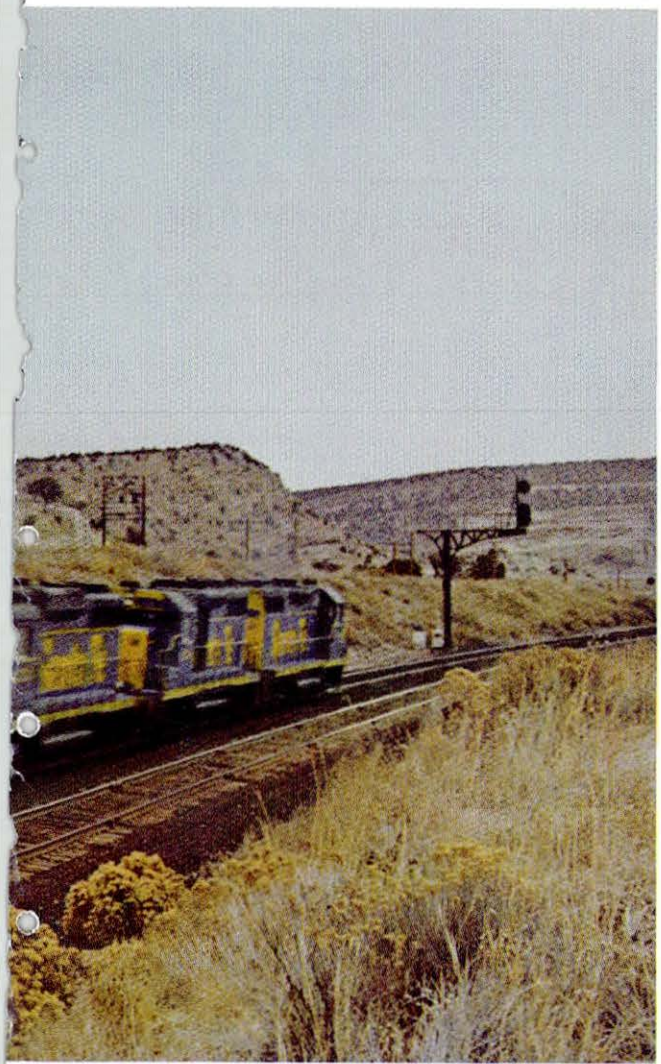
the dynamic new railroads

Next day—conquering rugged New Mexico (above) and the arid wilderness of Arizona (below) . . .



Dusk—engine change at Kansas City.

Chicago to L.A. in a day and a half ...by freight train



Then into a lowering sun . . .

Once upon a time they called freight trains "drags." Not any more.

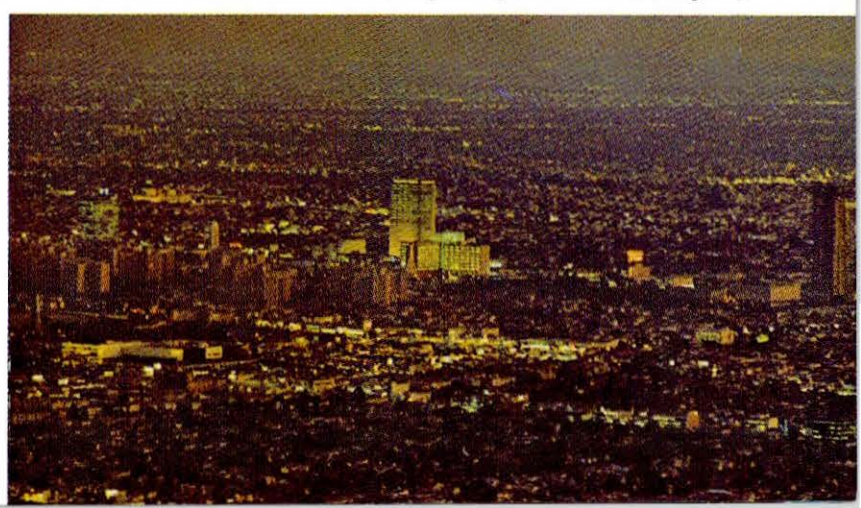
Today's hot-shots barrel along at passenger-train speeds. The fastest of them all—Santa Fe's Super C—clicks off the 2,200 miles between Chicago and Los Angeles in less than 40 hours.

Super C is strictly a trailer-and-container train, and it's the hottest thing on Santa Fe rails. Carrying top running priority over any train on the system, it is developing new high-rated traffic.

Aggressive, "can-do" railroading like this is of the very essence of the nation's Dynamic New Railroads.

Here at Bethlehem Steel we cheer this bright new age of railroading. As shipper, as consignee, as supplier, we depend heavily on healthy rail transportation. And we're doing more than cheering . . . with steadily increasing research programs aimed at keeping the railroads rolling.

BETHLEHEM STEEL



. . . and journey's end at Los Angeles.

How we helped one shipper harpoon big savings.

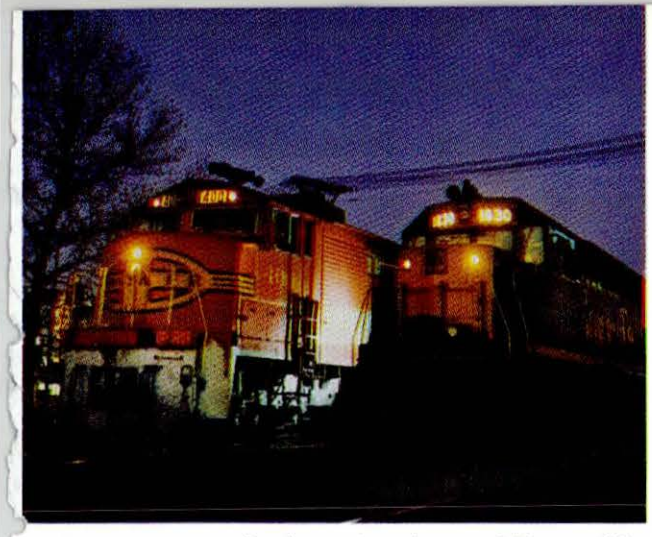
It took a whale of a car.

If a whale can't swim, the cheapest way he can travel is Southern Railway. The American Museum of Natural History found this out when they had to ship a 2-ton, 92-by-28-foot fiber glass Blue Whale from Macon, Georgia, to New York City. The cost of using ordinary boxcars would have been prohibitive. So we solved the problem with our big 60-foot car, designed for big-load economy. The whale was shipped in 15-foot pieces and arrived in New York safe and sound.

We don't carry a whale every day. But the same thinking that cut his travel expenses is working every day at Southern to save you money on less sensational shipments. Southern Railway System, Washington, D.C.

SOUTHERN RAILWAY SERVES THE SOUTH

LOOK AHEAD. LOOK SOUTH



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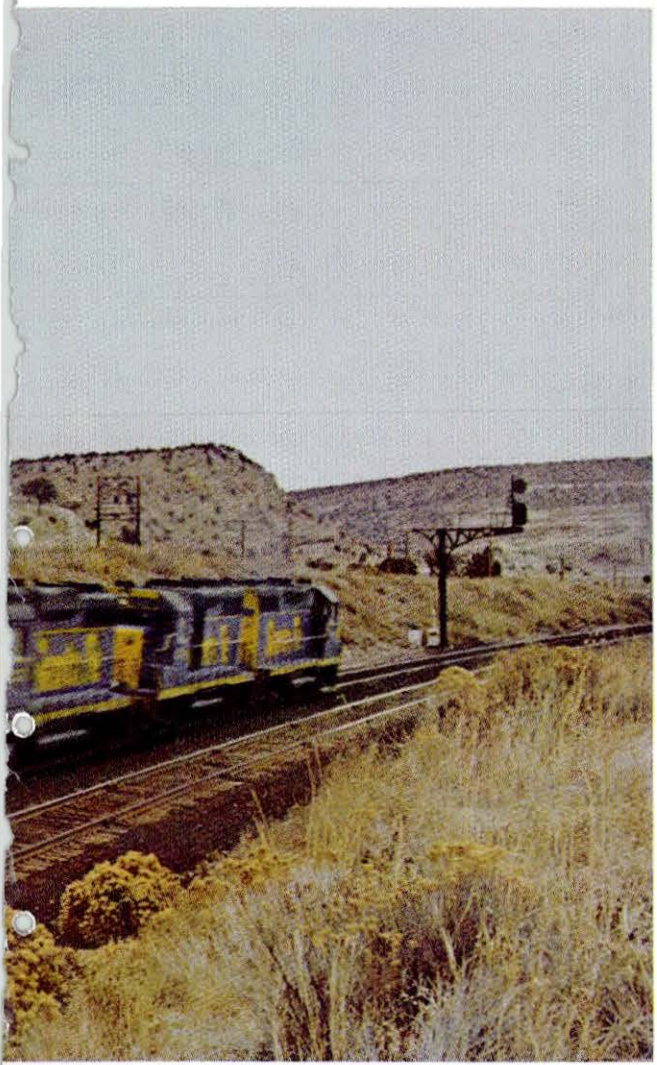

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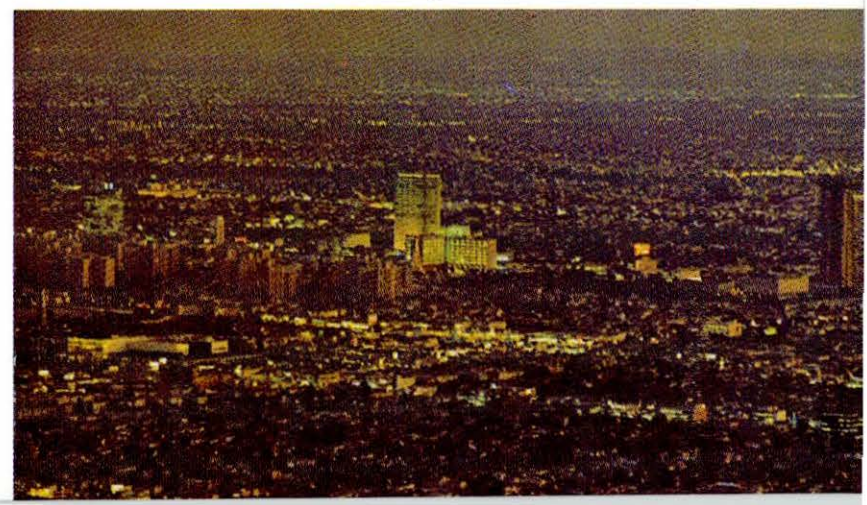

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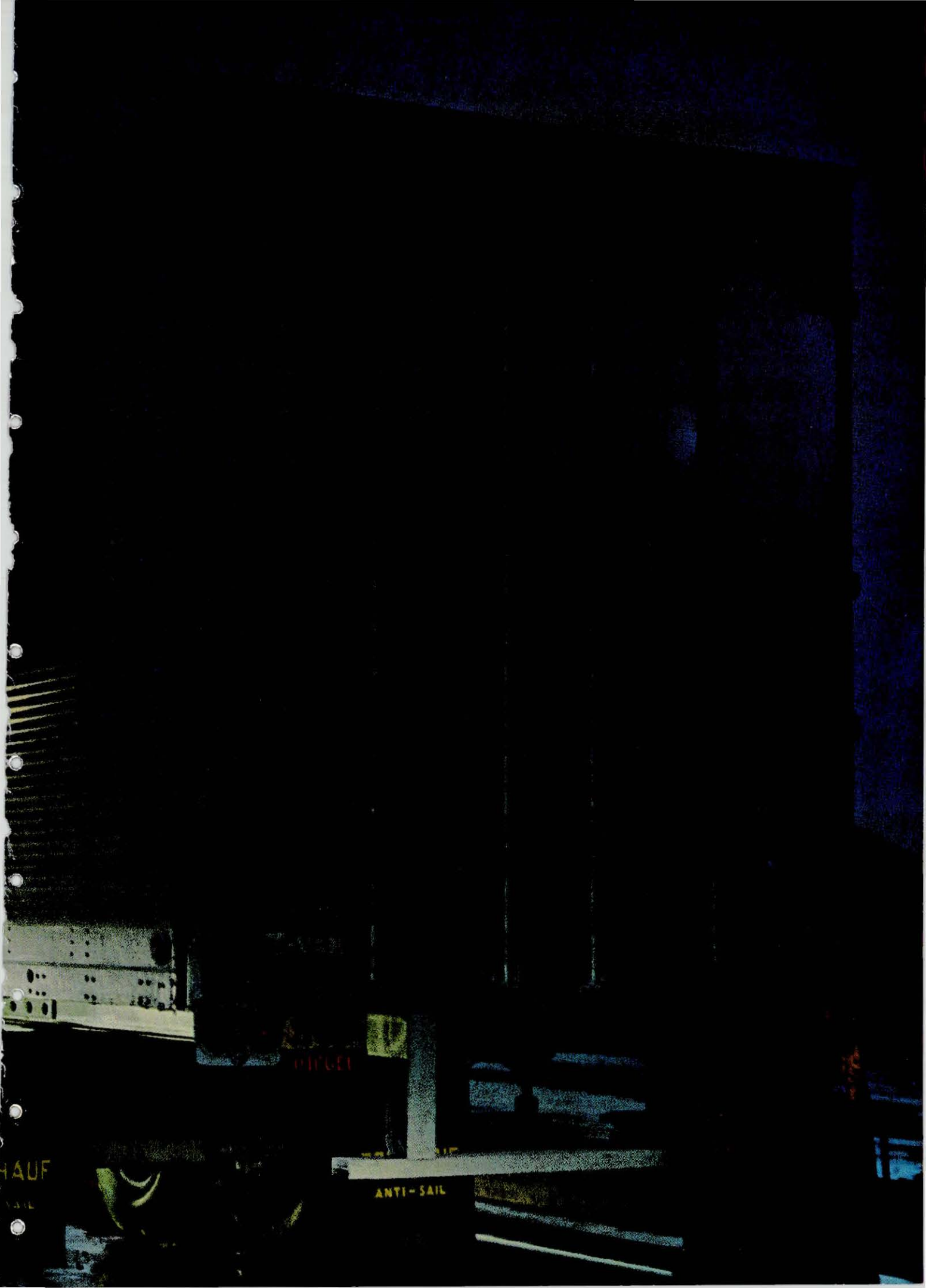
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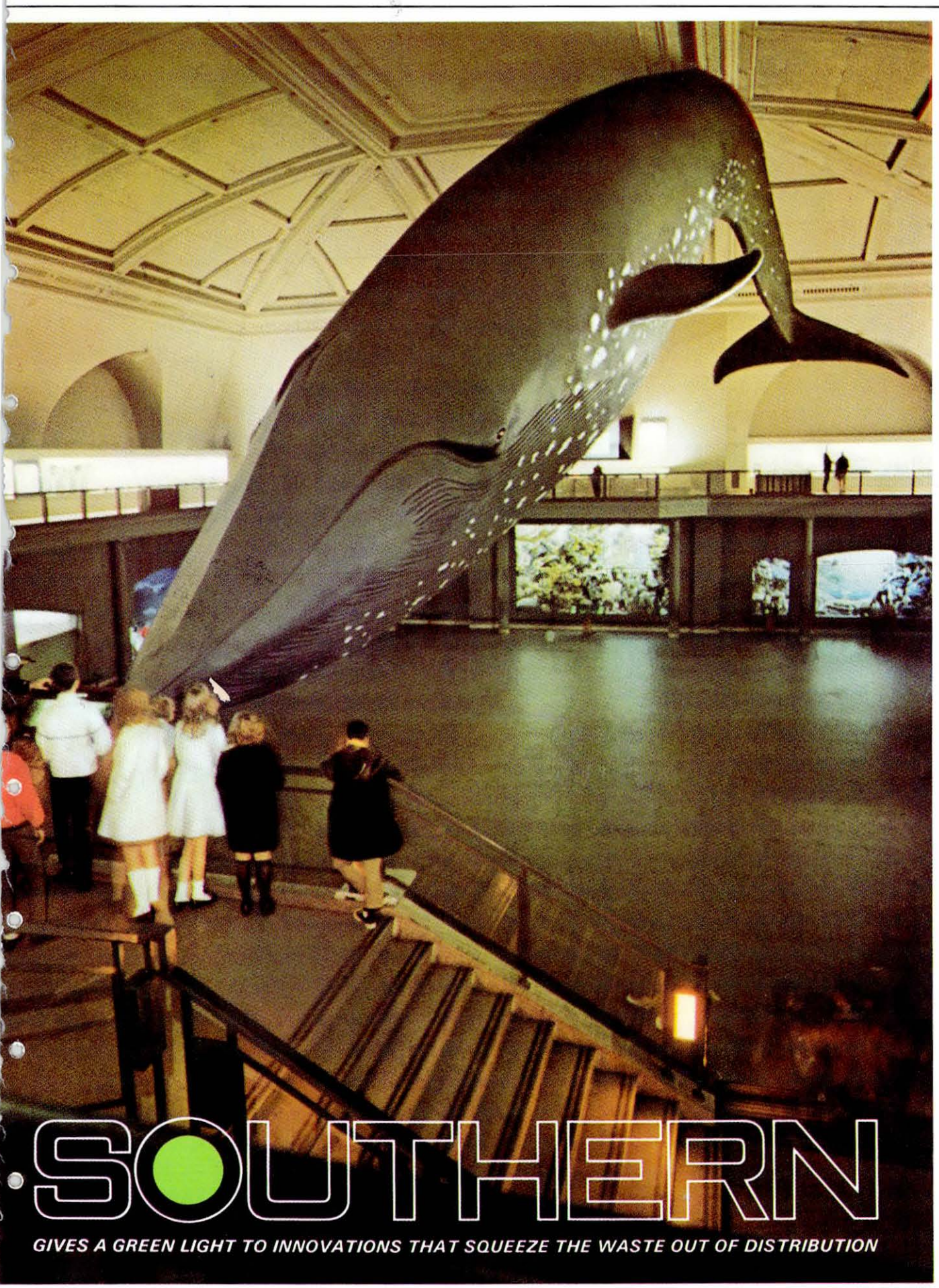

SOUTHERN

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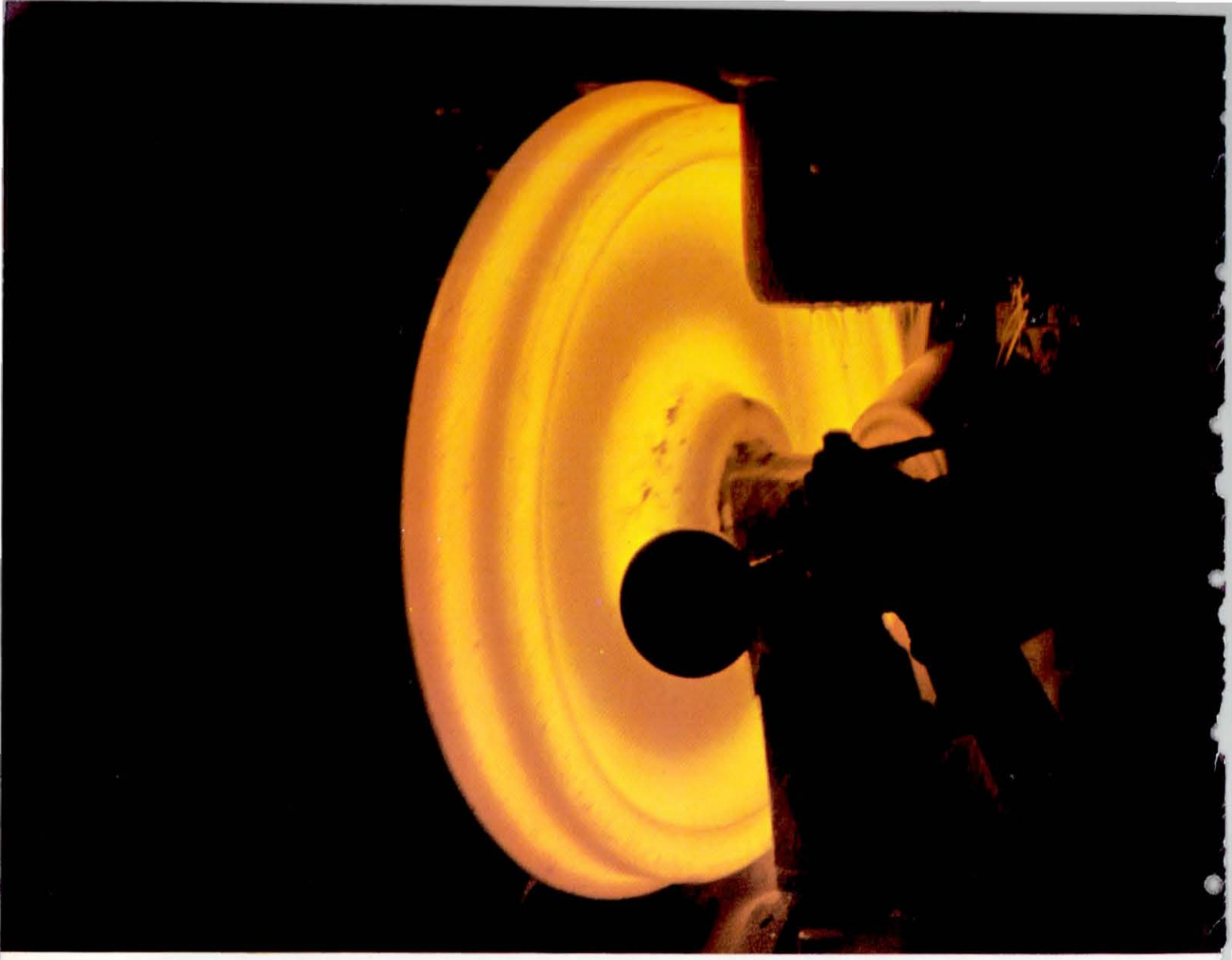

CAFL wheels and axles for the railroads

The Compagnie des Ateliers et Forges de la Loire, better known as CAFL, is one of the major European specialty steel producers, combining a fine tradition of steel making with the most modern equipment—The Dunes plant of CAFL, located near Dunkirk and Antwerp, specializes in the production of Railway wheels and axles, sold separately or as mounted sets.

The modern facilities of the Dunes have given to CAFL a leading position in the manufacture of wheels and axles. CAFL is the main supplier of the French Railroads, also exports to all European countries and the rest of the world, furnishing mounted sets to the railways of India, Turkey and Egypt; wheels or axles for Argentina, Brazil and Mexico . . .

Forged wheels: • Size limitations: all forged and rolled wheels with a diameter ranging from 20″ to 53″, and a weight from 375 to 2200 lbs.

• Steel specifications: all railroads' requirements can be met; in particular, all specifications such as A.A.R., A.S.T.M., U.I.C . . .

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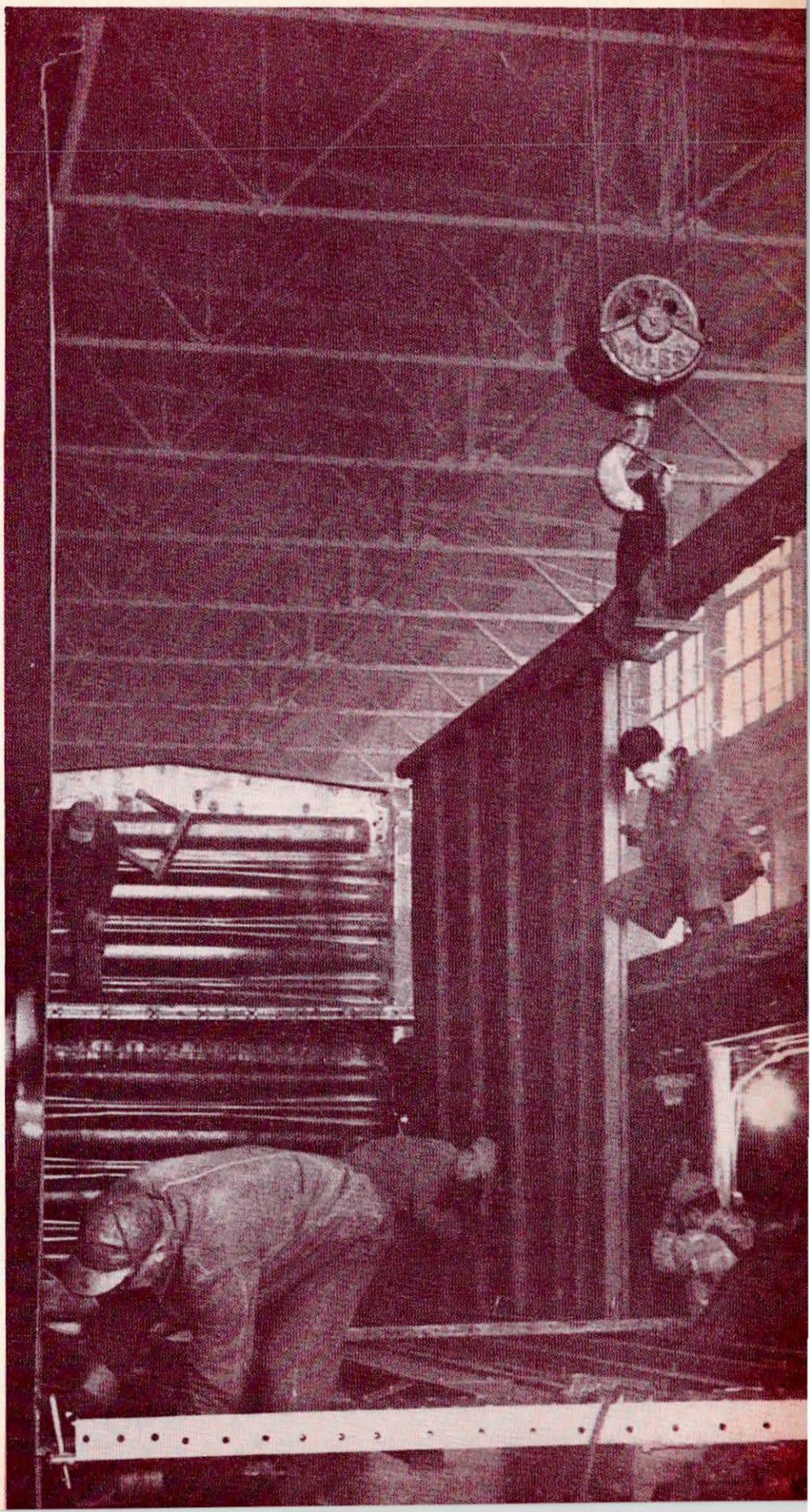
FREIGHT-CAR SUPPLY

Will new per diem lick shortages?

While special-purpose cars can be justified, general-service fleet is a real quandary.



When it comes to rating car shortages, many railroaders feel their customers tend to descriptions somewhat akin to those used by olive packers. The very smallest olives are rated "large." In order of increasing size these are followed by extra large, mammoth, giant, jumbo, colossal, and super colossal.

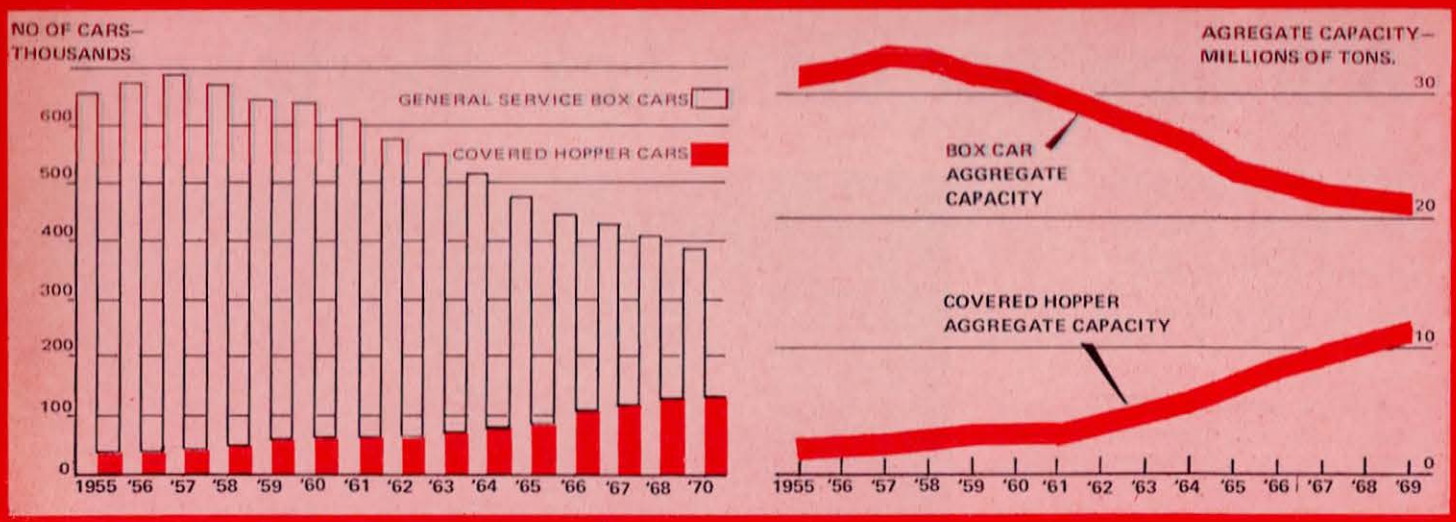
"Not so," retort shippers (see Traffic Poll, page 37). They point to regular (and sometimes permanent) diversions to other modes. They cite erratic service, the need to clean cars which are placed for loading, and perennial yard delays as other reasons for diverting traffic. But, say many, there are simply too few cars to handle the traffic which is potentially railroad traffic.

● **No solid front.** The arguments are not solely between carriers and customers; many are intramural. Some shippers are satisfied with the way their railroads are taking care of them. Among railroads, there is no uniformity of opinion on just who does what for (or to) whom. Railroad bickering spilled over into recent Senate hearings on car per diem and Federal Railroad Administrator Reginald Whitman called for "voluntary arbitration by the industry, rather than legislation," noting that this was the view also of the Secretary of Transportation.

The National Association of Shippers Advisory Boards is looking at a second-quarter forecast for an increase of 0.7% in carloading at a time when railroad orders for new cars have slumped. Earlier this month, in Portland, Ore., Fred H. Tolan, freight traffic consultant, proposed to the National Association of Marketing Officials that there be established a Federal corporation to build general-purpose box cars.

● **A critical problem.** There seems little question that the general-service box car is at the center of many of the current car-supply controversies. Industry ownership of this type of car has been dropping steadily since 1957.

By the beginning of 1970, it was under 400,000. And while railroads and private owners ordered over 84,000 freight cars last year and put almost



BULK HAULING has changed as covered hoppers are introduced in grain service; privately owned hoppers are not shown in chart.

70,000 new ones in service, a majority were intended for highly specialized assignments. The average capacity of new and rebuilt cars installed in 1969 was about 80 tons. Those retired averaged about 57 tons.

The debate concerning cube and weight-carrying capacity is one that is intimately involved with the shrinking general-service car fleet. Leon J. Coslov of the Institute of Scrap Iron & Steel cites the problem as it involves his industry.

In 15 years, railroad ownership of gondolas has dropped by one third, while the carrying capacity of this fleet has remained nearly constant. Says Coslov: "If the carrier replaces two 52½-foot cars with one 52-½-foot car of twice the carrying capacity, it has replaced the tonnage capacity but the cubic capacity is now one-half of that available previously." When scrap is loaded in a 52½-foot, 50-ton car, it is filled to both its weight and cubic limits. And, as with box cars, many of the new gondolas are fitted for special purposes but the typical scrap load goes in a general-service car.

And while railroads are usually the targets of customers, shipper associations, and regulatory agencies on the size and condition of their car fleet, there are a few kind words. A month ago ICC Commissioner Rupert L. Murphy told a West Coast shippers' group that "in the main, railroads do a remarkable job of fulfilling their role as public servants—even to the point that they are often abused and taken advantage of by the very people who rely on them for dependable transportation."

● **Free garbage service.** Murphy cited the free trash removal which railroads provide, however unwillingly. Customers all too frequently release empty cars full of debris "costing carriers untold millions of dollars in labor and equipment costs, as well as the loss of millions of productive car days." This set off ICC's investigation of dirty cars, an action which Murphy says has inspired customer cooperation and is relieving a bad situation.

The California Grape and Tree Fruit League to which Murphy was talking is concerned primarily with highly specialized refrigerator cars and trailers. But it, too, has complained to ICC about equipment shortages. Murphy was ready for complaints concerning railroads' failure to maintain standby refrigerator service to accommodate perishable traffic during peak periods or when other conditions make it necessary to utilize rail service in lieu of other modes. "This sort of service is not practicable and even if the carriers were willing to make heavy investments in cars and other equipment necessary, the cost would undoubtedly be prohibitive," he warned.

"As long as unregulated [Agricultural Exemption] competition exists, both the railroads and the regulated motor carriers will, in my opinion be hard put to offer expedited schedules

DISMANTLE?
Battered gondolas are often retired or stored unserviceable. Monon instead chose to have group of its cars reworked.

. . . OR REBUILD?
U.S. Railway Equipment restored general-service car and then leased it back to its former owner to supplement the fleet.

and volume movement at an acceptable level of rates, due to the uncertainty of the shippers' freight-service needs," Murphy added.

● **Another factor.** The recent rash of Teamster strikes has put a further squeeze on rail equipment. In many areas car surpluses were quickly translated into shortages. American Motors, General Steel Industries, U.S. Steel and many other manufacturers were slowing operations and shutting down completely some cases as highway hauling became erratic or stopped completely.

Twenty five years ago when Senator Warren Magnuson (D.-Wash.) attended his first committee meeting, the subject was the box car shortage. Today he is still an active participant in the hearings on the same subject. Members of the emergency subcommittee on freight car shortages of the Senate Commerce Committee are now mulling testimony taken in three days of hearings on a proposed time-only per-diem plan that may replace the ICC's time-and-mileage plan set to take effect June 1 (RA, March 30, p. 13).

If the time-only plan, supported by Western railroads mainly, plus C&O/B&O and N&W, is to become law, some fast legislative work is necessary. There are alternatives. The June 1 date for implementing the time-mileage plan can be extended, as it was previously, to allow for hearings on the time-only plan. Or, ICC could push its incentive per-diem plan as an adjunct to the time-mileage plan. That, in the view of one Commerce Committee source, would make the time-mileage plan acceptable to the Western roads. Finally, railroads could avoid legislation by resolving the issue among themselves.

● **Two issues.** In the per diem hassle, there are two issues—freight-car supply and railroad economics. Faced with the prospect of getting cars returned more quickly under beefed-up per diem rules, Western roads support measures that would increase rentals paid for their cars by other roads. However, with their longer routes, Western roads have opposed any per-diem plan that involves adding a mileage factor for the use of another owner's freight equipment.

ICC Chairman George M. Stafford told the subcommittee that the Commission believes "the time has come to end the years of controversy surrounding the basic per-diem formula. We do not say that any such formula is, or can be, perfect, but all contentions and arguments have been considered and all courts confronted with the problem have upheld us. In fact, the courts have consistently recognized the potential fairness of the time-mileage formula and the corresponding unfairness of the time-only formula." Stafford asked that legislation be deferred until the time-mileage formula had gone into effect and there had been an opportunity to appraise its effectiveness.

● **And never the twain . . .** Penn Central's Robert W. Minor, senior vice president, opposed Senate Bill S-3223, the time-only bill, and gave an Eastern position. He cited the time-mileage basis for rental of Trailer Train piggyback cars, noting that there is no evidence of their poor utilization, an allegation of the Western roads as to the effect of such rates imposed on the general car fleet. Minor said that Eastern roads are not to blame for car shortages in the West during grain harvest, as stated by the bill's sponsors when it was introduced. "If any blame is to be placed on railroads with respect to handling Western grain harvests, it must be directed at the Western railroads, which have not maintained an adequate ownership of grain cars to meet the demands of their shippers."

New marketing pattern

"Means are available," Minor added, "and should be taken by the grain industry and government to avoid such peak demands through making storage facilities available that would enable the grain to move systematically throughout the year, instead of placing on railroads the responsibility of providing equipment for a narrowing peak period with little use for such equipment during the remainder of the year."

Union Pacific Chairman Frank E. Barnett, for UP and 16 other roads, testified that "under this time-mileage formula it will become cheaper to hold cars than to move them and to use cars owned by others than to buy them. The incentive to invest in much-needed rolling stock will be lost. Car shortages, already critical today, will necessarily become worse under the Commission's formula. The carriers for whom I speak believe that the injurious consequence of operating under the Commission's formula will be felt throughout the entire industry and by shippers who rely on rail service."

Gregory S. Devine, C&O/B&O president, affirmed Barnett's position, noting that "there is no reason to believe that the new ICC time-mileage system . . . is going to have anything but an adverse effect on the availability of empty hoppers and gondolas for loading in the East."

● **Seventeen years.** The ICC has worked for 17 years to produce a per diem system which could have a life even shorter than that of a seventeen-year locust. Chairman Stafford calls it "the longest and certainly one of the most expensive cases in the history of the Commission."

Taxes and the economic outlook have much to do with car acquisitions. But, says Stafford, "we cannot order the railroads to build any particular type of car in short supply. What we can do is make purchase of such cars attractive and we have moved positively, we believe, in that direction the past year. We can also require distribution of the existing fleet to achieve maximum utilization. The boxcar shortage is a problem that must be shared by carriers, the public, and the Government."

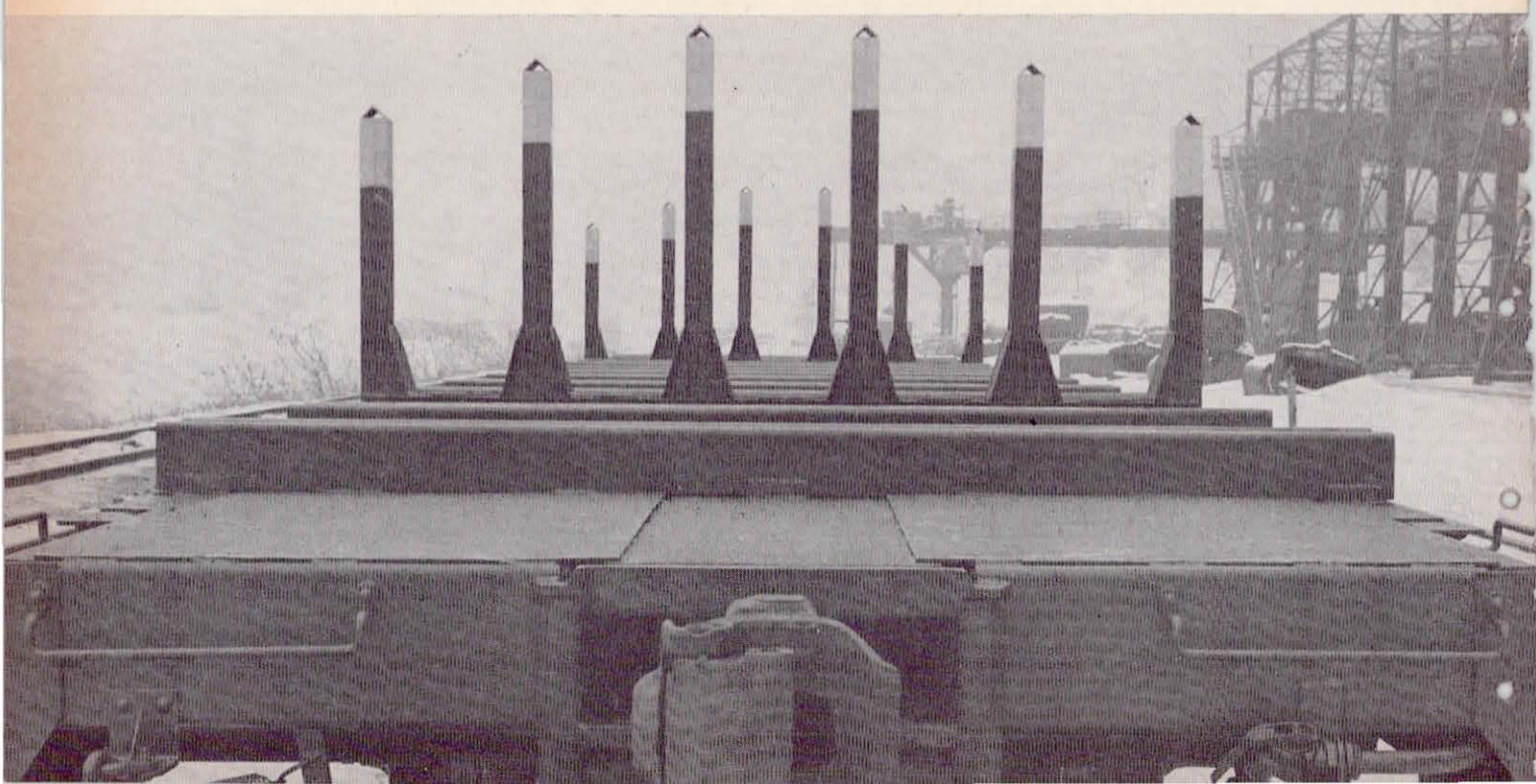
Rock Island President Jervis Langdon recently suggested that a pool, patterned after Trailer Train, be established to supply general-purpose box cars and, subsequently, covered hoppers He identified as crucial "central control of car distribution so that the pool would be available to supplement car supplies generally as harvest and other peaks develop in the West and elsewhere in the country."

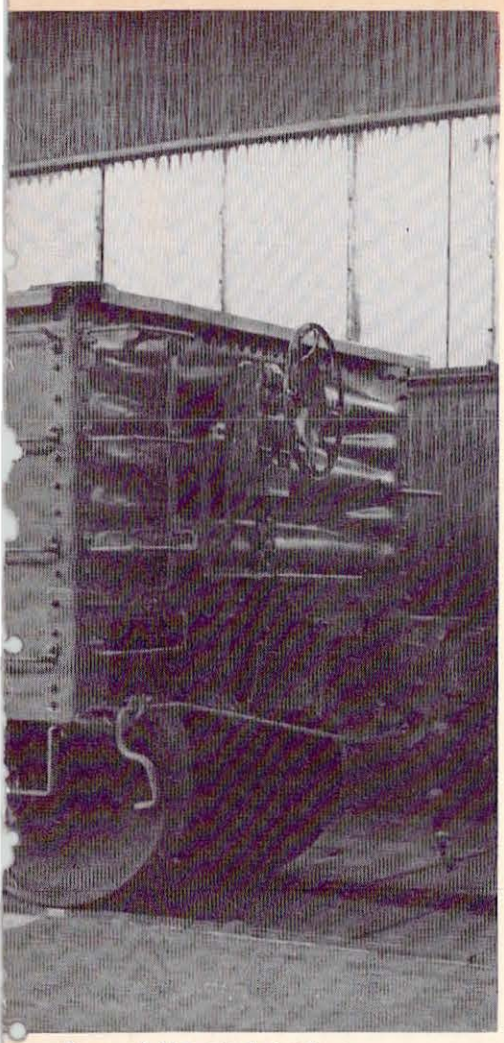
At its New York meeting last year the National Industrial Traffic League called upon Congress to recognize the effects on the national economy of a perennial car shortage. In its policy statement, NITL asked that "carriers provide equipment within the pool concept according to a suitable car ownership formula which will recognize shippers' requirements according to what railroads serve origins and participate in line-haul movements of their particular traffic. This program should include long-range planning, as well as provision for present needs and be implemented by an adequate research and development program designed to give recognition to innovations which may be available . . . To achieve this objective, the League will support improved tax provisions for depreciation, obsolescence and investment credit, as well as other measures designed to augment the national car fleet."

● **Whose formula?** Railroads on their own, the ICC and Congress have never been successful in producing an ownership formula satisfactory to a majority of railroads. The recent proposal for a National Freight Car Corporation to be chartered by Congress, says Consultant Tolan (see above) is in response to the inadequacy of all past efforts to meet car needs, irrespective of future national requirements. Tolan observes that "the financial condition of many major railroads, and the condition of the railroad industry generally, leaves little ground for optimism under present efforts." Tolan says NFCC would be privately controlled and would not require Federal funds. ■

INGOT MOLD CARS are extra-wide 52½-foot gondolas which will be operating full time between Bethlehem, Pa., plant and other

Rail equipment fits exact needs of





operations of the steel producer.

Bethlehem

The steel wheel, the steel rail and the steel producer have always been natural allies. This partnership is not changing. Typical of the tailoring of railroad equipment to the precise needs of a major source of rail traffic are two new fleets of cars which have just begun serving Bethlehem Steel Corp.

The Lehigh Valley has expended over $1.4 million for 100 heavy-duty gondola cars assigned full-time to the movement of ingot molds from a facility at Bethlehem, Pa., where they are produced, to Bethlehem Steel's five other mills—Steelton and Johnstown, Pa.; Sparrows Point, Md.; Lackawanna, N.Y.; and Burns Harbor, Ind. Ingot molds are the huge metal forms in which molten steel from furnaces is initially poured and cooled as the first step in production of finished mill products.

● **Finger cars.** The other fleet—150 Trailer Train flat cars with special deck hardware—is used for transporting a finished product. Configuration of the deck hardware—designed for holding bundles of steel reinforcing bars—has led to designation of the new units as "finger-rack cars."

The cars with the finger racks are based at Steelton, moving the bars produced there to Bethlehem's fabricating shops in the East and Midwest. The design originated with Bethlehem's car-building group at Johnstown and was tested on a TTX prototype for several months before it was decided to arrange a long-term lease for the 68-foot TTX cars. Bethlehem has become one of the first rail shippers to make such an arrangement with Trailer Train. As with all TTX leases, Bethlehem owns the finger racks, deck channels and tie-downs—all the above-the-deck equipment.

● **Problem solvers.** Use of the special flat cars to ship the long steel bars used to reinforce concrete construction has solved one of Bethlehem's most persistent shipping problems. The cars are saving money by reducing loading and unloading time, and by cutting down on the quantity of blocking previously required to secure the bars safely for rail shipment.

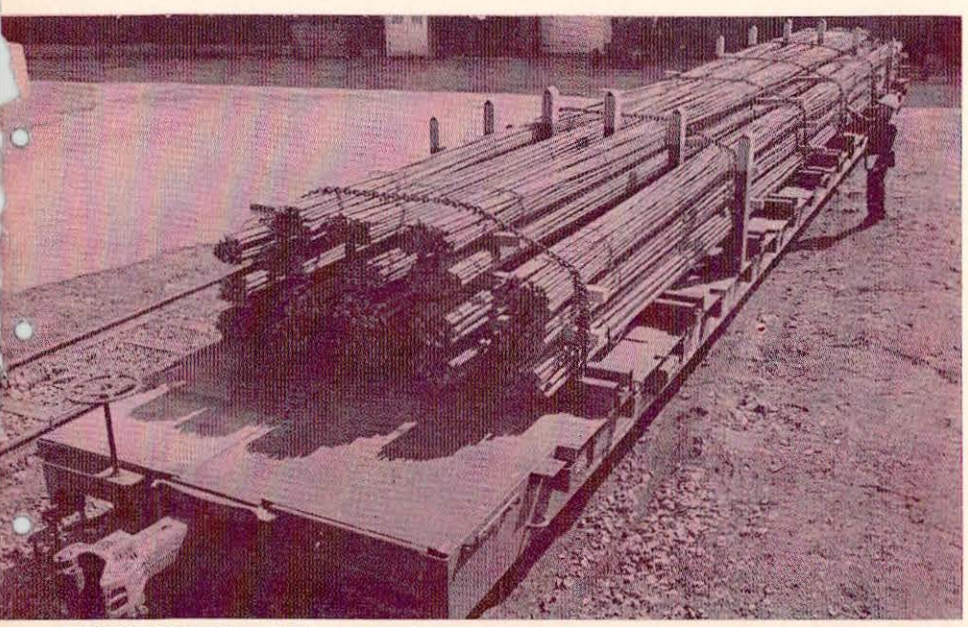
Before the 68-foot flat cars were available to railroads serving Bethlehem, it was necessary to rely mainly on gondolas to transport the thousands of tons of reinforcing bars made each year at Steelton. The bars are normally produced in 60-foot lengths, requiring 65-foot gondolas. The scarcity of these cars frequently made it necessary to overhang loads with idler cars or, at times, to cut the steel bars to fit 52-foot gondolas. This last loading procedure represented a simultaneous waste of time, money and steel.

The 68-foot flat cars can carry the reinforcing bars in their standard length. The steel deck allows them to be loaded directly at the end of the mill before the product has cooled to normal temperature. The end-of-car cushioning, the finger racks and the chain tie-downs make it safe and practical to use flat cars for these shipments. The bars are loaded between the fingers in 5-ton bundles. Eighteen of these bundles can be carried by each car.

Before building the finger-rack cars, Bethlehem's car shop had already produced a large number of the 68-foot flat cars for Trailer Train. Until their use with the finger racks, this car had been built in three versions—with plain deck, with chain tie-downs, and with bulkheads. C. D. Buford, TTX president, recently reported that "still another variety is being developed with movable bulkheads to handle steel plates, ingots, stacks of sheets, and other shapes."

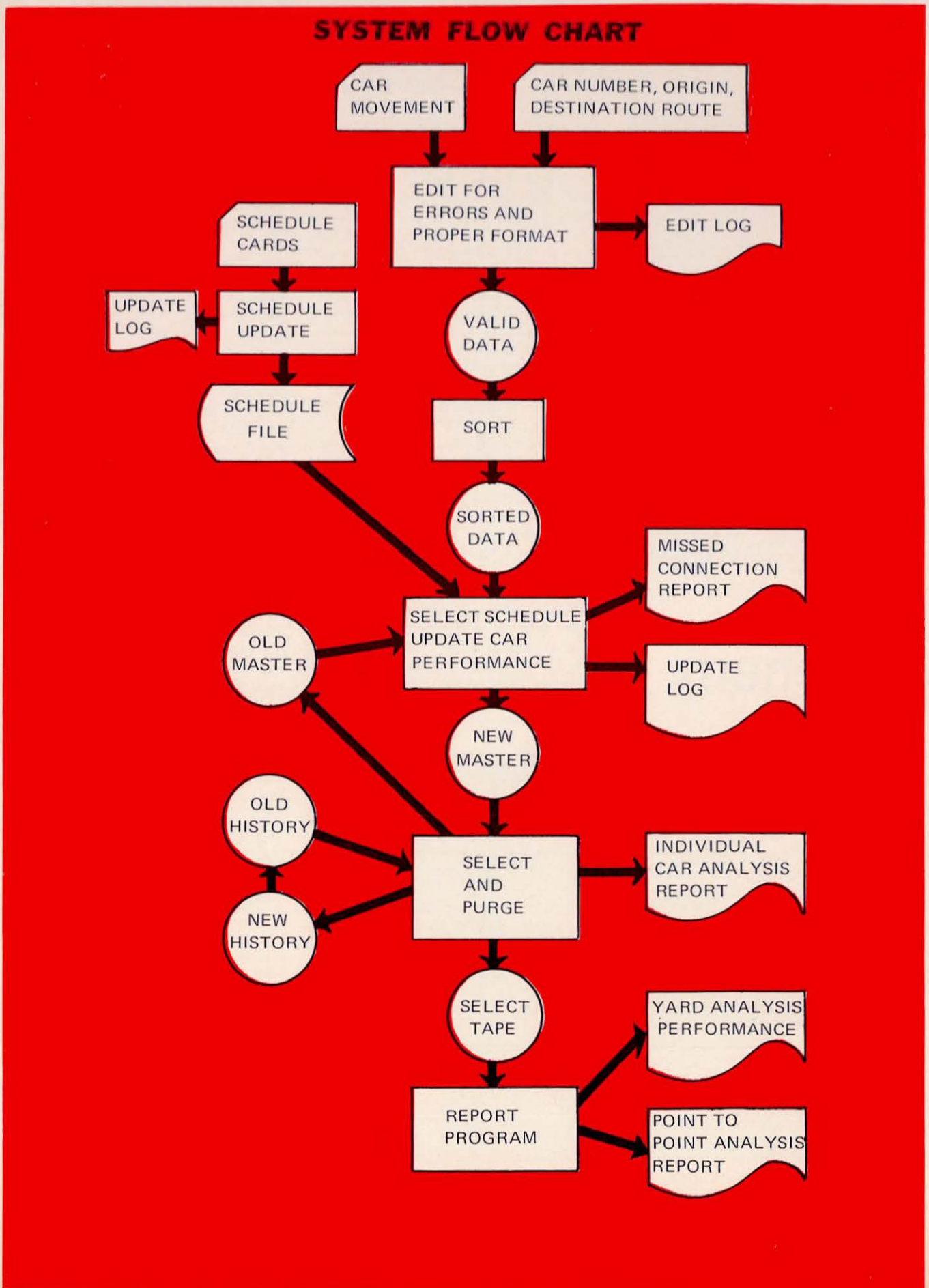
● **Ingot-mold cars.** The Lehigh Valley's ingot-mold cars for Bethlehem are 52½-foot, 100-ton gondolas built 5 inches wider than standard to simplify loading individual molds which may run up to 70 tons in weight and 9 feet 4 inches in width. The cars, all built by Bethlehem during February and March, have an inside width of 9 feet 10 inches. In addition to their extra internal clearance, each of the cars has two longitudinal rows of heavy timber blocking on its floor to form a cradle for the molds and prevent their lugs from contacting the flooring.

The gondolas have reinforced underframes to withstand the concentrated loading represented by the heavy castings which they will regularly be carrying. ■



FINGER RACKS on TTX cars make shipment of reinforcing rods easier and cheaper; a larger number of gondolas will now be available for other services.

A bold proposal for utilizing the



car fleet more effectively

By HERBERT E. BIXLER,
Vice President
Systems Analysis and Research Corp.

As any experienced railroad salesman will confirm, dependability is the service feature most often mentioned by shippers when an attempt is made to sell them rail service. All features are important: low rates, fast service, freedom from loss and damage. But none of them is attractive if a car may take anywhere from two days to two weeks to reach the consignee. The best of modern equipment won't deliver the goods if it misses connections.

For at least a generation railroad transportation and traffic men have struggled with the problem of individual car performance, with results which leave much to be desired. Repeated discussions with shippers produce the firm conviction that undependability of car movement is the one feature that forces the decision to ship by truck, even at higher rates. For most merchandise of reasonably high value the rate is simply not sufficiently important to outweigh the disadvantage of complete uncertainty of arrival.

There are other reasons why car delays are bad. They increase car shortages both directly by the delay involved and by causing further delay in unloading as a result of bunching. They tend to clog yards and disturb the even flow of movement which results in optimum train tonnages.

Most important of all, however, is the discouragement of the choice of rail movement. To correct this, some complete and detailed policing of each movement through every classification yard and interchange is necessary. Past efforts to do this have been successful only in individual situations to which a car tracer could be assigned. But attempts to create an over-all system to monitor car movement bogged down in the mass of detail which it involved. Train performance can be and is readily checked. But such a check reveals nothing if cars miss the right train. Even checks at intermediate yards of "cars on hand 24 hours" reveal very little, since a connection may be missed in as little as two hours, and in extreme cases may be scheduled to take slightly more than 24 hours.

The modern answer to such a problem of massive data digestion is the computer. The computer can handle the job, but it must have a program. Here at Systems Analysis and Research Corporation (SARC) we have been working on this problem in cooperation with Management Methods, Inc. (MMI). The system we have developed appears satisfactory because it is technically feasible and conceptually simple.

The data processing procedure is outlined in the accompanying System Flow Chart.

Our system is based on the fact that there is an arranged schedule in effect for every car shipped. It is sometimes buried in a mass of detail in different instructions. But the schedule is always there and can be discovered by anyone with the know-how to dig it out.

To begin with, any shipping plant is served by a local or an industrial switcher which operates on some kind of schedule. It has an arranged starting time, at the very least. The time when it is expected to switch a given plant can be estimated with sufficient accuracy for our purpose. This local or switcher is due at a classification yard at a time already established, or which can be established by consideration of its record. From such a yard there is certain to be a specific train whose consist is arranged to include cars for each destination with which we are concerned. There may be only one train per day which takes cars for a given destination and it may conceivably be due to leave 22 hours after the local arrives. Nevertheless there is a scheduled connection.

At each intermediate point of the run thereafter, whether or not further classification is involved, there is a scheduled connection. It may not be a published schedule, but if nothing else, there is at least a practice which can be formalized. At the yard serving the final destination, there is a local or industrial switcher designated to serve the consignee. The train on which the car in question arrives is scheduled (at least by custom if not by formal arrangement) to make connection to such local or switcher on the day of arrival or, if there is insufficient time for classification, on the next day.

In short, a schedule exists for every car. It may take some ferreting out, but it is there. The trick is to do this in advance and feed it to the computer. In actual practice it would not be necessary to pair every origin and every destination. For an individual railroad these would tend to aggregate in fairly large blocks. For example, all origin points served by one local would naturally block together, as would all destinations routing via a given junction point and connection. A sample schedule appears in Table 1.

With the schedules in the computer, each car can be entered as it is shipped. The computer will match it with the appropriate schedule. Then, at each

TABLE 1—SAMPLE SCHEDULE

	Train	Day	Time
Car loaded, sh. order tendered, at origin	—	0	1500
Scheduled departure from point of origin	Local	0	1600
Scheduled arrival at Concentration Yard A	Local	0	1800
Scheduled departure from Concentration Yard A	AB 2	0	2200
Scheduled arrival at intermediate Yard B	AB 2	1	0600
Scheduled departure from intermediate Yard B	BC 4	1	1300
Scheduled arrival at intermediate Yard C	BC 4	1	2100
Scheduled departure from intermediate Yard C	CZ 6	2	0500
Scheduled arrival at terminating Yard Z	CZ 6	2	2200
Scheduled departure from terminating Yard Z	Local	3	0800
Scheduled arrival and placement at destination	Local	3	1200

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TABLE 2(b)—CAR RECORD AFTER ON-TIME PERFORMANCE BETWEEN POINT A AND POINT Z (WITH INTERMEDIATE DELAYS)

Schedule	Day/Time	Actual	Day/Time
Closing time—Origin	272-1500	Car tendered—Origin	272-1400
Departure—Origin	272-1600	Departure—Origin	272-1530
Arrival-Point A	272-1800	Arrival-Point A	272-1735
Departure-Point A	272-2200	Departure-Point A	273-0135
Arrival-Point B	273-0600	Arrival-Point B	273-0910
Departure-Point B	273-1300	Departure-Point B	273-1300
Arrival-Point C	273-2100	Arrival-Point C	273-2013
Departure-Point C	274-0500	Departure-Point C	274-0412
Arrival-Point Z	274-2200	Arrival-Point Z	275-0146
Departure-Point Z	275-0800	Departure-Point Z	275-0710
Placement-Destination	275-1200	Placement-Destination	Note (1)

Intermediate delays
a) Delay in departure from Point A caused late arrival at Point B, but departure on time.
b) Late arrival at Point Z caused by failure of train to maintain schedule.
c) Car departed from Point Z on original schedule therefore satisfactory car performance was made.

Note (1)
Actual placement not recorded since it is assumed car actually departing terminating yard in proper local will be delivered substantially on time.

TABLE 2(a)—CAR RECORD AFTER ON-TIME PERFORMANCE BETWEEN POINT A AND POINT Z (NO DELAYS)

Schedule	Day/Time	Actual	Day/Time
Closing time—Origin	272-1500	Car Tendered—Origin	272-1400
Departure—Origin	272-1600	Departure—Origin	272-1530
Arrival-Point A	272-1800	Arrival-Point A	272-1735
Departure-Point A	272-2200	Departure-Point A	272-2150
Arrival-Point B	273-0600	Arrival-Point B	273-0400
Departure-Point B	273-1300	Departure-Point B	273-1300
Arrival-Point C	273-2100	Arrival-Point C	273-2013
Departure-Point C	274-0500	Departure-Point C	274-0200
Arrival-Point Z	274-2200	Arrival-Point Z	274-1951
Departure-Point Z	275-0800	Departure-Point Z	275-0735
Placement-Destination	275-1200	Placement-Destination	Note (1)

No delays enroute—car arrived on-time at destination

Note (1)
Actual placement not recorded since it is assumed car actually departing terminating yard in proper local will be delivered substantially on time.

MISSED CONNECTION REPORT, YARD B

Car	Arrival Train	Arrival Time	Departure Schedule Train	Departure Schedule Time	Departure Actual Train	Departure Actual Time	Destination
A1234	AB-2	273-0545	BC-4	273-1300	BC-6	273-2030	Z

check point the computer will note whether the car arrived on time or not. If it did, it will go on to note whether it leaves on the proper train, and repeat the performance to the end of the run. When a failure occurs, the computer will thereafter keep two records, that is, the relation of actual movement to the original schedule and the record of the remainder of the movement to the new schedule (usually 24 hours later) which becomes applicable as a result of the delay. This dual control enables the system to pick up subsequent delays if they occur, rather than just write off the car as delayed when one delay occurs. It will also enable the system to take note if some advance movement puts the car back on its original schedule.

Each yard's and each train's performance is checked en route as it relates to the movement of the particular car being traced. Most important of all, the whole movement of the car is monitored and the resulting record shows whether it was late, how much, and where the delay occurred. This record can, of course, be aggregated in any way desired. That is, the cars from one shipper to one consignee over a period of time can be reported, or all cars from one origin to a variety of destinations in one day, or any other aggregation.

Real-time checks can be made at every significant point. For example, the computer notes that certain cars have arrived at point A in time for dispatch on train AB-2. When the consist of AB-2 is known to the computer (e.g., by means of ACI) the machine will immediately note and inform the yardmaster of any cars which should have been there but missed. Corrective action on the spot will be much more effective than when done a week later. Since the superintendent of freight transportation will have the same record, corrective action is assured. These reports do not represent spot checks made long after the move, but constant, real-time monitoring of performance matched against precise standards.

To understand it better, let's follow the movement of a hypothetical car.

A shipper in the vicinity of point A loads a car for a consignee near point Z in time for pick-up by his regular local on Monday. The shipper order identifies the car by initial and number and provides consignee, destination and route. When this information is fed into the computer, a complete schedule is selected for movement to the consignee involved, showing each yard and train en route and calling for delivery to consignee on the local which serves him on Thursday.

The local picks up the car at origin

TABLE 3—CAR RECORD AFTER FAILURE TO MEET SCHEDULED PERFORMANCE BETWEEN POINT A AND POINT Z

Original Schedule	Day/Time	Revised Schedule	Day/Time	Actual	Day/Time
Closing time—Origin	272-1500	Closing time—Origin	272-1500	Car tendered—Origin	272-1400
Departure—Origin	272-1600	Departure—Origin	272-1600	Departure—Origin	272-2100
Arrival-Point A	272-1800	Arrival-Point A	272-1800	Arrival-Point A	272-2300
Departure-Point A	272-2200	Departure-Point A	273-2200	Departure-Point A	273-2210
Arrival-Point B	273-0600	Arrival-Point B	274-0600	Arrival-Point B	274-0545
Departure-Point B	273-1300	Departure-Point B	274-1300	Departure-Point B	274-2030
Arrival-Point C	273-2100	Arrival-Point C	275-2100	Arrival-Point C	275-0430
Departure-Point C	274-0500	Departure-Point C	276-0500	Departure-Point C	276-0810
Arrival-Point Z	274-2200	Arrival-Point Z	276-2200	Arrival-Point Z	277-0315
Departure-Point Z	275-0800	Departure-Point Z	278-0800	Departure-Point Z	278-0755
Placement destination	275-1200	Placement destination	278-1200	Placement destination	Note (1)

Car was delayed three days.
a) late arrival at Point A caused 1 day delay,
b) failure of Point B to maintain departure schedule as revised by previous delay caused 1 day delay, and
c) failure of Point C to maintain departure schedule as revised by previous day caused 1 day delay.

(1) Actual placement not recorded since departure on proper local from terminating yard establishes day of arrival.

and the computer notes that the first step is satisfactorily completed. The local is due at yard A at 6 p.m. ACI tells the computer that the car arrived on time. The car is due to leave on AB-2 at 10 p.m., and the computer notes whether it does. AB-2 is due at yard B at 6 a.m. Tuesday and the computer knows whether or not it is on time. Schedule calls for departure from yard B on BC-4 at 1:00 p.m. Tuesday, and the car's departure is noted. Each intermediate move is similarly checked with arrival at yard Z at 10 p.m. Wednesday. Thence, the schedule calls for departure on the appropriate local on Thursday. At this point it would engender good shipper relations to phone the consignee and tell him that his car is on today's local. If so, no further trace should be necessary since it is unlikely that the consignee's representative will let the local's conductor go by without a car which he wants and which he knows is on the train. The car can now be said to be on time and becomes part of any aggregation of statistics desired. Table 2 depicts this schedule.

Far more important, however, is what happens if there is a delay. At each point from A to Z the computer notes two things. First, it notes whether the car arrives on time or late. If late, it notes a failure in the movement of each car involved attributable to late arrival of a certain train. (This assumes that the train left the prior point on time; if not, the computer will already have indicated the delay due to a prior cause.) The computer will also note if the car arrives at a point on time but leaves that point late, and will both notify the yardmaster and indicate on

TABLE 4—FREIGHT CAR MOVEMENT QUALITY CONTROL POINT-TO-POINT ANALYSIS

_____19_____
(Month)

CARS FROM (ORIGIN) VIA A-B-C-Z TO (DESTINATION)

	No. of Cars	No. of Delays	% of Total Cars	% of Delays
Total Cars	1,000		100	
On time for entire route	500		50	
One day late	300		30	
Delayed at:				
A		80		27
B		100		33
C		100		33
Z		20		7
		300		100
Two days late	150		15	
Delayed at:				
A		25		8
B		150		50
C		75		25
Z		50		17
		300		100
Three or more days	50		5	
Delayed at:				
A		30		17
B		125		71
C		15		9
Z		5		3
		175		100
Total number of delays		775		100
Delayed at:				
A		135		17
B		375		48
C		190		25
Z		75		10

(Same form of report can be produced for aggregations such as: "Cars from all origins via C-Z to (Destination)" or "Cars from (origin) to all points via A-B-C" or any other desired aggregation.)

TABLE 5—FREIGHT CAR MOVEMENT QUALITY CONTROL YARD PERFORMANCE

YARD B.....DAY.....19....

Car enroute from (origin) to (destination) via A-B-C-Z

			%
	TOTAL	10	100
Based on actual arrival (revised schedule)	Departed OT	8	80
	Departed 1 day late	1	10
	Departed more than 1 day late	1	10

Cars arriving on AB-2 destined all points via C

			%
	TOTAL	50	100
Based on actual arrival (revised schedule)	Departed OT	45	90
	Departed 1 day late	4	8
	Departed more than 1 day late	1	2

ALL CARS	**TOTAL**	**1,000**	**100**
Based on actual arrival	Departed OT	800	80
	Departed 1 day late	150	15
	Departed more than 1 day late	50	5

TABLE 6—FREIGHT CAR MOVEMENT QUALITY CONTROL Individual Car Analysis (Trace)

Car initial and number ..... A 1234
Day and hour released ..... 272—1500

	Schedule # Day/Time	Actual Day/Time
Departure—origin	272-1600	272-1730*
Arrival—Point A	272-1800	272-1930
Departure—Point A	272-2200	273-2200
Arrival—Point B	273-0600	274-0600
Departure—Point B	273-1300	274-1300
Arrival—Point C	273-2100	274-2100
Departure—Point C	274-0500	275-0500
Arrival—Point Z	274-2200	275-2200
Departure—Point Z	275-0800	276-0800

— Schedule based on release at origin
* — Delay
Car delayed 24 hours entirely due to late operation of local at origin.

the record that car delay occurred because of missed connection at that yard (See the accompanying Missed Connection Report).

As stated before, in any case of delay the computer will continue the record of the individual car checked against two standards, first the original schedule, in order to record failure to perform the over-all movement on time, and second against whichever schedule applies to the remainder of the run as a result of the delay, in order to record any further delays (see Table 3).

As a result, then, all concerned know that cars in general, or cars from a particular point, or cars to a particular area, or any other desired aggregation of cars were moved through from shipper to consignee ——% on time, ——% 1 day late, ——% 2 days late, etc. Most important, all concerned will know where delays occurred and when, with the result that corrective action can be immediately and effectively applied. Conceivably corrective action may be impracticable, or so expensive as not to be worthwhile, but at least this fact can then be recognized and acknowledged by change of schedule.

In any case, the uncertainty is removed. When a salesman is greeted with the familiar objection that rail service is too undependable, he can meet it by showing a computer printout which says that current individual car performance from A to Z is ——% on time. A sample of such a report appears in Table 4.

In addition to the immediate missed connection report, example of which appears earlier, yard performance can be summarized daily (or weekly or monthly) in a variety of aggregations as indicated in Table 5.

Such a system of reports cuts through the sometimes indigestible welter of reports which come from a railroad's computer. The few reports shown above display—both immediately and periodically in retrospect—all that is needed to keep track of car movement, yard performance, and incidence of delays. Such reports as "cars on hand 24 hours" or special reports of perishable or other particular traffic will no longer be needed. Most tracing can be avoided. If trace of an individual car is needed, it can be provided by the report which appears in Table 6.

Even train performance can be monitored with more intelligent information. Current train performance information reports whether a train arrived at an interchange point in advance of an established cut-off hour, but tells nothing about what happened to the cars. If AB-2 is ten minutes late, responsibility for delay is established, but what happened to the individual cars? Probably some of them made connection, but in the absence of laborious tracing, this isn't known. The system of quality control of car movement outlined here will give such information in complete detail, not only reporting that AB-2 was ten minutes late, but going on to report that the result was a 24-hour delay for some cars, nullification of the delay for others because the time was made up by the yard performance, or late departure of connecting trains.

The system, then, provides complete information, both real-time and historical, for:

1. Local switching service, origin and destination.

2. Yard performance with respect to scheduled movement of cars, the best index of efficiency.

3. Train performance, specifically related to its results in terms of the movement of cars.

In addition, the system can be used to provide a yardmaster with advance information of what cars are en route to him, arranged to show what cars are scheduled to make each departing train, so that consist of departing trains is known even before the cars arrive.

Best of all, this information can be digested and significant facts reported to responsible operating men in time to permit instant corrective action and in sufficient detail to provide a factual basis for intelligent rearrangement of operations if necessary. Performance is bound to improve and such improvement, immediately displayed to shippers by the reports provided, is bound to improve the railroad's share of the market. ■

APRIL TRAFFIC POLL

QUESTIONS

1. In the past 12 months has the freight-car shortage forced you to divert shipments from railroads to other modes?

No	20
Yes (to common carrier trucks)	39
Yes (to our own trucks)	15
Yes (to various other modes)	16

2. If the answer to A is Yes, do you anticipate that the diverted traffic will:

Never return to rails?	10
Return entirely to rails when cars are available?	30
Return partially to rails?	50

3. In the past 12 months, has the car-supply situation in your view:

Deteriorated?	42
Remained the same?	14
Improved?	5

NOTE: Respondents did not answer all questions; some respondents answering "YES" to Question A indicated that their shipments had been diverted from rails to more than one alternative mode.

Car supply still plagues shippers and railroads

Railroads are continuing to lose traffic because of an inadequate car supply. This is pointed up sharply by responses to the April Traffic Poll.

Only 20 respondents to the Poll said they had not diverted shipments from railroads to other modes during the past 12 months. An overwhelming majority of respondents indicated that, because of freight-car shortages, much potential rail traffic had been assigned to competing modes of transportation.

● **Trucks the big gainers.** Many respondents cited instances wherein shipments had been diverted to more than one alternative mode. However, Poll replies indicated that most of the respondents' traffic diverted from railroads went to common-carrier trucks.

Diversion of potential, or former, rail traffic to private carriage also ranked high as the industrial traffic managers' answer to railroad freight-car shortages. A few respondents said their traffic had been diverted to water carriers.

The extent of the damage to railroad freight business caused by a shortage of cars is dramatically illustrated by the number of Poll respondents who said their diverted traffic will never or only partially return to rails. Such respondents far outnumbered those who said their traffic will return entirely to railroads when cars are available.

● **No improvement seen.** Most respondents said they thought the car-supply situation had deteriorated in the past 12 months. Some thought the situation had remained the same. A few said the situation had improved.

Many respondents said that the size of the freight-car fleet is only one element in the car-supply situation. No matter what the number of cars—or their capacity—erratic and inadequate railroad service would tend to create the effect of a small fleet. Terminal delays and slow transit times were cited again and again as important factors in minimizing the value of the existing freight-car supply.

For example, here are the remarks of J. Robert Morton, director of corporate traffic and distribution, Combustion Engineering, Inc., Windsor, Conn. "At Combustion Engineering we do not feel that the deterioration in car supply is due to a lack of building of cars. It is simply that the time used in transit has so lengthened that the available supply has been depleted. Over the past six months it is unbelieveable how time in transit has lengthened.

"Mishandling and no bills are at an all-time high. Time in transit is a basic factor in forcing us to go to over-the-road transit. How can any company tolerate the attitude of the rail carriers toward time in transit? Combustion Engineering is steadily enlarging its private over-the-road carriage—this was an unknown as recently as two years ago."

● **Meeting schedules.** Another respondent who said the availability of cars alone does not affect the choice of a transport mode was Robert J. Tyler, corporate traffic coordinator, Chemetron Corp., Louisville, Ky.

"The delays in terminal play an important part in the selection of the mode of transportation," Tyler wrote. "If railroads would meet published schedules and have adequate equipment available, their revenues would increase by 50%."

The comment of O. E. Andersen, general traffic manager, Penick & Ford, Ltd., Cedar Rapids, Iowa, was short and to the point: "We shipped a car on Lincoln's Birthday that had not moved on Washington's Birthday—and I cannot tell a lie!"

G.E. Mayfield, manager traffic, purchasing and traffic department, American Oil Co., Chicago, also said he was not sure that the critical problem of car supply is entirely due to the shortage of equipment. "We believe that part of the problem, at least, can be attributed to a laxity on the part of some of the railroads in the return of empty cars. When you put these two problems together, it really becomes critical."

Mayfield said his company's primary problem with car shortages is in fertilizer materials and sulphur. "Every fall and spring we experience a critical supply shortage of potash and sulphur

(Continued on page 48)

World's biggest distribution center

Former naval depot, built during World War II, has 6.5 million square feet of roofed space.

If the 12,000 or so persons who attended last year's Golden Spike Centennial celebration had stopped at Clearfield, Utah, on their way to or from Promontory, they would have had a lot more to tell their friends and associates when they got home. At Promontory, of course, they saw the place where, exactly 100 years earlier to the day, the nation's first transcontinental railroad was born.

At Clearfield, meanwhile, they would have seen one of the true marvels of modern-day distribution and transportation. There, just a few minutes north of Salt Lake City, and fewer minutes south of Ogden, lies spawling Freeport Center, a colossal distribution center which is said to be the largest of its type in the world. Here, to give an idea of the scope of this operation, are some of its vital statistics:

—600 fenced-in acres
—27 miles of paved road
—35 miles of railroad tracks
—128 buildings, with 6.5 million square feet under roof.

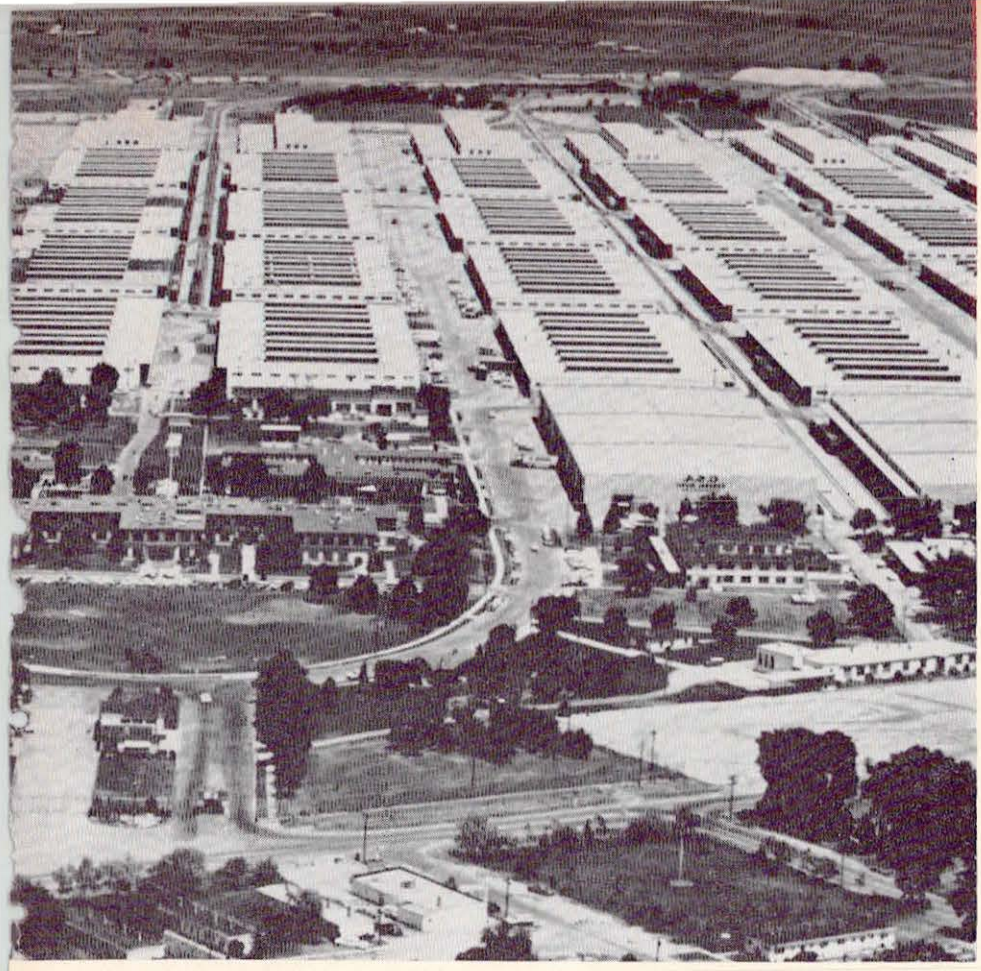
The majority of the buildings in the center have 200,000 square feet each. This means that about 10 good sized supermarkets could be housed comfortably inside each one.

● **A railroad operation.** Freeport Center is, essentially, a rail-in/rail-out type of distribution center. Trucking is used for some shorter hauls. For the most part, it will be railroads—Union Pacific, Denver & Rio Grande Western, Southern Pacific and Western Pacific —which will be doing the bulk of the transportation work in and out of the area. UP and D&RGW have direct access to the giant complex, while SP and WP have connections with them. In the course of a year, the two roads directly serving this single center will handle about 25,000 inbound carloads and 40,000 outbound, most of them destined for the West Coast. It ranks as one of the UP's major revenue producers.

At first glance, Clearfield may appear to be a highly unlikely spot for a distribution center the size of Freeport Center. However, if lines are plotted from it to such population centers as Los Angeles, San Francisco, Seattle, San Diego, Portland, Denver, it can be seen they are all within an 800-mile radius. All these metropolitan areas can be reached easily by rail out of Utah. Actual rail transit time to the most distant of these areas is listed at just 30 hours. Furthermore, the center is blessed with excellent transloading arrangements and very attractive carload rates.

Locale and transportation services are two of the more important reasons why Freeport Center is virtually bulging at the seams, with its 6.5 million square feet of space almost 99% occupied. To succeed as it has, though, Freeport Center has had to have a lot of other things going for it. For instance, Utah's "freeport" law, which allows inventories to remain in the state for 12 months without being taxed, goes a long way toward making Clearfield an attractive distribution center for scores of some of the nation's biggest manufacturers and shippers. In other states, meanwhile, they might encounter an inventory tax which could add as much as 20% of the storage costs to the storage bill.

Storage space at Freeport Center is relatively low-cost, too, with space renting for as little as 3.8 cents per



thrives on rail service

square foot per month. The labor force is quite adequate, with wage rates that compare quite favorably with the national average, and the vast majority of the workers are not unionized.

Another extremely important factor that helped transform Freeport Center from a struggling enterprise in 1963 into what is today a booming, "biggest in the world" distribution center would be the computer. Along with the computer came reliable, quick-access information systems, which are absolute necessities when operating on a broad scale like Freeport Center's. What the computer was able to do for the center was, essentially, give it a logistical impact on distribution of products coming from the East and Midwest and going to the intermountain and western states. "For lack of a better word," says James F. Hannan, the exuberant general manager of the sprawling Freeport Center, "I would have to say that it was 'logistics' that made us click."

Hannan will be the first to admit, too, that Freeport Center did just about everything but click when it first became a private enterprise in 1963. At the time it was purchased from the Federal government, for $5.7 million, the complex was a partially-phased-out Naval Depot. It had acquired the status of a "white elephant." During the first couple of years that it operated as a private enterprise it showed no signs of changing this color. Freeport Center management was worried, Jim Hannan admits.

● **History.** Freeport Center's history goes back to 1942. Its formation closely parallels that of our first transcontinental railroad. It, like the railroad, was built to help preserve the nation's integrity during a critical period. Workers—15,000 altogether—converged on the construction site. In the almost unbelievably short period of 10½ months they completed what was to be known throughout the war years (and on into the early 1960's) as the Clearfield Naval Supply Depot. Locally, it was known simply as the naval base.

The depot served the country well throughout World War II and during the Korean conflict. Its purpose was to supply the fleet on the West Coast. While intact as an arm of naval supply, the entire center actually consisted of 9.2 million square feet of covered space. Even today, the Federal government's General Service Administration holds about 3.5 million square feet of the over-all depot.

During its phasing-out period and immediately before the government's decision to offer the major portion of it for sale to private interests, the old naval base was getting a taste of civilian enterprise. Both Westinghouse and Del Monte Corporation had leased buildings on the base for use as distribution centers for their products. Westinghouse used the base, for distribution west, of such products as appliances. Del Monte used it as a warehouse for its food products going to eastern markets. Thus, so far as being a distribution point for consumer products, the Clearfield depot was not totally untried when a group of San Francisco investors purchased the property in 1963.

● **A shaky start.** Despite the success achieved by Westinghouse and Del Monte in simplifying their distribution patterns, the first few months and years of Freeport Center as a free enterprise were pretty tough, Hannan recalls. Others didn't come clamoring for leasing contracts. In its first full year of operation, Freeport Center could boast of only about 20% occupancy. That consisted mostly of Westinghouse and Del Monte operations, which had been there all along. "Our overhead was tremendous," recalls Hannan. "To cut our costs, we even tried to operate our own railroad on the property. After five derailments in the first year, plus a loss of about $120,000, we decided that the people on the Union Pacific and the Denver & Rio Grande Western knew a lot more about railroading than we did, so we turned the operation over to them.

"We sold the tracks—but not the land—to the roads for one dollar, and they now do all the switching for us. We leave the railroading up to the experts. It's a lot cheaper that way."

It was toward the end of 1965 that the so-called white elephant started to lose its pale color. An intensive direct-mail campaign was launched. Occupancy began to creep up. Big names—Admiral, Brunswick Corp., Ford, General Electric, Kraft, Massey-Ferguson, Norge, Pet Milk, Whirlpool, U.S. Steel, to name a few—elected to use the center as a distribution outlet. Soon the center was receiving 1,000 carloads a month, and was transloading better than two-and-one-half times that many. Manufacturing, and private warehousing then came along to swell the occupancy. Associated Piping, Hercules Powder, Fram, Hobart, Marquardt, Sperry Rand, Utility Trailer, to name some, set up manufacturing facilities in the center.

Public warehousing firms—like Na-

tional Warehouse & Distribution, and Redman—came along to gobble up still more of Freeport Center's rapidly dwindling space. As the empty space was coming into short supply, demands for freight cars and transportation services were on the rise. The public warehouses accounted for much of the rising equipment needs. It is in the buildings leased by the public warehousing companies that one sees how vital the railroads and the computer, more than anything else, are to Freeport Center.

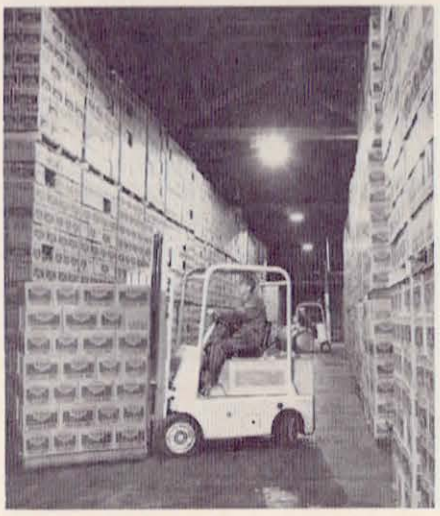
It is in the public warehouse buildings, too, that one realizes what a mammoth distribution center exists at Clearfield. Picture row upon row of boxed refrigerators stacked three high; visualize more rows of washers and dryers stacked even higher. Try to imagine carefully packaged electric organs, maybe 500 or 600 of them, also stacked several high, occupying a miniscule section of one of the big buildings. Across the aisle from the appliances may be row upon row of canned goods and packaged goods—pitted dates, olives, pineapple, dog food, cat food. Could there be that many cats living on the West Coast?

● **Tremendous turnover.** What one sees stored on the floor of these warehouse buildings won't be there a month hence. All those refrigerators, all those washers and dryers, all that cat and dog food will have been sent on its way, probably by rail, to points closer to the consumer. "We operate on a first in/first out basis," explains Ottis M. Plant, National's general manager. "During a normal day, we'll handle in and out approximately 15,000 items, mostly of the large appliance category."

In terms of rail service, this means 150 to 200 cars a day must be handled for National alone. Across the blacktop in another group of buildings is Redman's warehouse operations. There, the scenes are about the same. The methods of receiving, storing and redistributing are about the same, too. First in/first out, tons upon tons of goods never thought of in terms of tons arrive one month and are gone the next, to be replaced by more of the same article. As for transportation service, the story is the same: Rail cars going to or from the Redman buildings are almost constantly on the move somewhere within the 600 acres of Freeport Center.

Without the computer, neither the public warehouses nor the companies leasing space in the center for storage and distribution purposes could keep tabs on all the thousands of carloads of goods that pause at the center on their way to consumer outlets. National, for example, has an IBM Model 360/20 computer for its inventory control. With this computer, explains Plant, National can maintain instantaneous inventory control. Customers can receive a complete transaction history of each invoice, with information on the inventory on hand plus all receipts and releases for the month.

In sharp contrast with the computer, there's a chalk board in Plant's office which, as some railroad representatives have come to learn, is also part of National's operations. It is on this board that Plant chalks out wages paid and man/hours lost when rail equipment fails to appear at National docks on schedule. Because of the high volume of goods that move daily, a tardy car is almost intolerable. For the most part, equipment is available, although getting cars spotted at docks is sometimes a struggle right up to the last minute.



FIRST USERS

Del Monte and Westinghouse Electric were early users of Freeport Center. Scores of the largest U.S. companies now use it as a major distribution point.

● **Expanding rail facilities.** UP, which handles the majority of traffic at the center, has 1,038 cars assigned to it. About 60% of this fleet consists of special-equipped cushioned appliance cars. The remainder are mostly for dry commodities such as canned goods and other food products. To keep up with the center's activities, UP has just completed rebuilding 800 appliance box cars for service at Clearfield. Also, a $450,000 expansion program for the yard serving Freeport Center has been approved. Thus, the yard's capacity will be doubled to a size that will allow it to handle about 1,600 cars.

Because of the nature of the products that move through Freeport Center on their way to consumers, the vehicle most in demand is the box car. Piggyback began making inroads a short while back. But, because of a special $75 surcharge levied on each trailer loaded out of the center, this method of transport has cooled considerably. Trailers, once as scarce as hens' teeth, are now in surplus.

As the story goes, at one time the Salt Lake City area was a notorious surplus trailer area. Foodstuffs, especially, would be piggybacked in from the West Coast, and the trailers would be shipped back empty. Freeport Center management latched onto the idea of using these trailers to ship cargoes out to the West Coast. This seemed like a mutually beneficial move until Freeport Center, because of the fantastically large volume it sends out, began using all the empties and requesting more and more to handle cargoes. Thus, it reached the point where more and more empties were being sent from the West Coast to Utah. The surcharge followed.

Freeport Center and some of the roads serving it are seeking to have the surcharge lowered so that piggybacking can return and carry on a normal growth pattern. "We realize now that we did create a problem with piggyback service," admits Hannan. "We hope now that the surcharge can be reduced enough to make piggyback an attractive proposition again."

● **Attractive tariffs.** With or without piggyback, Freeport Center stands to continue as an attractive proposition for shippers. Transportation rates and transit privileges are good. Because of liberal tariffs, rail storage in transit and trans-loading are particularly attractive. The tariffs state: "Carload shipments may be received from a number of eastern points, stored in transit, and then outloaded into four separate box cars for movement to a combination of points widely separated in the Far West." While a 4-for-1 breakdown is permitted without penalty, the actual ratio has been running at about 2.6 cars outbound for every one inbound.

With all but 1% of Freeport Center occupied and producing revenues, one could think that Jim Hannan and his management team might sit back and relax a little. But, when you've come from the brink of disaster to almost total success, you don't relax easily. Hannan can look across the tracks, for instance, and see a sizeable chunk of industrial land owned by the UP. Could expansion move in that direction? Also, with Utah's attractive Freeport Law providing an incentive and with customs facilities already in operation, why couldn't Salt Lake City become an important import-export air freight terminal? Hannan asks. In the end, any expansion of distribution patterns in the area will mean rail operations will have to grow, too. And there is nothing wrong with that. ■

Helicopter to fight Chicago rail crime

Five railroads combine forces to detect the trouble spots.

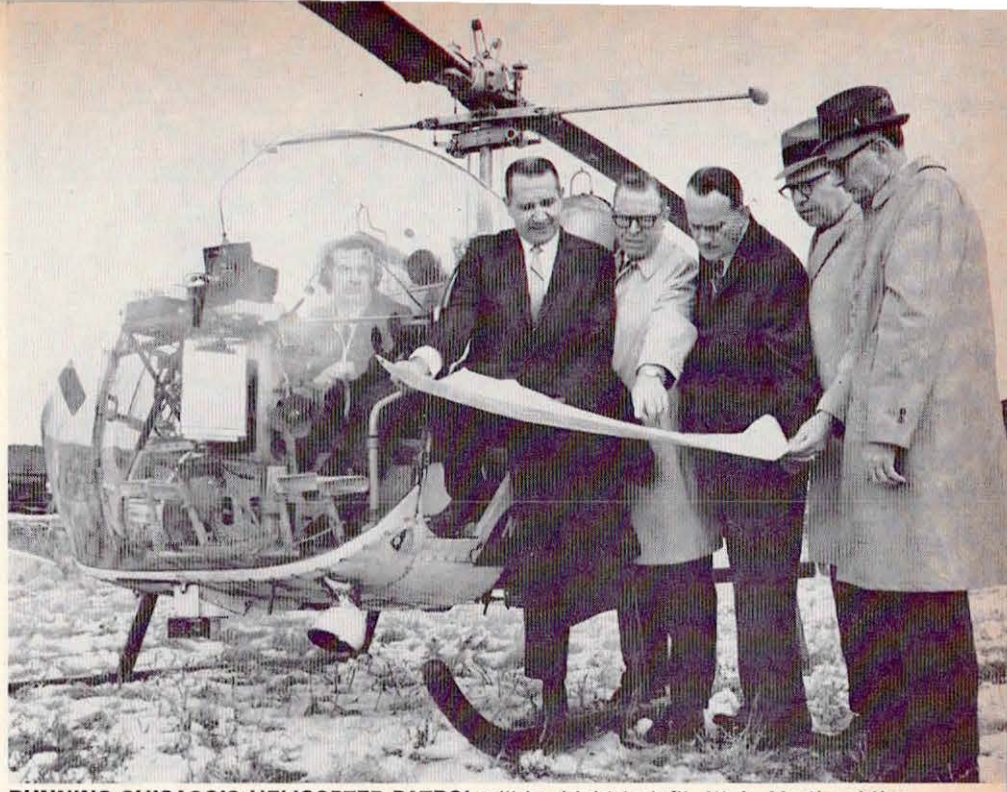
A new kind of bird may soon take to the air over Chicago as five railroads add an aerial arm to their police forces.

Hopefully, this aerial patrol—by helicopter—will solve some of the tough problems peculiar to railroad security efforts in a metropolitan area. It could point the way to a whole new approach to person-and-property protection, not only in Chicago but also in many other railroad centers.

The problems shape up like this: Railroad police are limited in manpower. The very nature of policing functions on railroads makes designation of adequate and efficient manpower difficult. Railroad property may or may not get the protection it should have from metropolitan police forces, even though railroads are major taxpayers and should be able to demand certain levels of protection. At the same time, railroads are susceptible to a number of different kinds of criminal action, ranging from vandalism to theft to sabotage.

● **Every problem.** As it happens, the five Chicago roads planning the aerial-patrol test have just about every protection problem that railroads anywhere face. Three of them—Chicago & North Western, Illinois Central, and Burlington Northern—have commuter-service operations, with the vandalism problems that go along with such operations in metropolitan areas. All five roads—including Santa Fe and Belt Railway of Chicago—have major freight classification yards close-in to the city, and theft is an ever-present problem.

As the sponsors of this project see it, there's a two-part basic goal: To detect problems, and then to direct ground forces to the trouble spot, "thus expanding the effectiveness of existing—and now understaffed—railroad police forces. This is not simply a supplement to existing protection systems. It appears to be a kind of catalytic agent which could multiply the effectiveness of existing property-protection forces."



RUNNING CHICAGO'S HELICOPTER PATROL will be (right to left), W. L. Martin of the IC; M. C. Leininger of the Burlington Northern; J. L. Hastings of the Santa Fe; R. E. Feeley of the Belt of Chicago; and R. P. Hartley of the North Western.

● **Big span for the bird.** What can the helicopter do? It can cover 35 square miles in the time it takes a patrol car to cover one mile. It can travel from one area to another five times as fast as a car. And visual efficiency from a chopper is 35 times as great as the visual efficiency of a patrolman on the ground.

As now planned, the Chicago helicopter patrol will fly daily—in late afternoon, over suburban-service and passenger-train routes which would also include a number of yards; and from late evening to early morning, over yard areas.

Two alternate patrol routes have been set up, covering about 100 miles of suburban-service and passenger track and the many yards which lie along the lines. Yard-patrol flights are also programmed with two alternate routes, covering 43 freight-yard areas and 100 miles of connecting track. Routes in each case can, of course, be run in reverse, and starting times may be varied, "to make it almost impossible for the trespasser, vandal or thief to predict when the helicopter patrol will pass his location." Routes and times have been based on the results of problem-studies made by the five roads' chief special agents.

● **A matter of priority.** In each patrol swing, various yards will get different patrol-duration time—depending upon the size of the facility and its record of theft or other security problems. Costs of the program will be split among the five participating roads on a basis of time spent patrolling, according to the amount of time of observation of each road's property. Cost of idle time to, from and between will be shared on a pro-rated basis by all roads.

In night patrol, the helicopter—equipped with floodlight, siren, public-address system and videotape camera—will be able to survey a circle area 300 feet in diameter from 500-foot altitude. Patrol flight will be run at 60 mph, nonproductive flight between surveillance points at 90 mph.

If the chopper observer spots trouble, he will be able to make immediate contact with the individual railroad involved. If the problem requires notification of the Chicago police department or a suburban department, it will be up to the ground radio operator to do so by telephone, since the railroads are not now permitted to have a common radio frequency with the police.

● **Start up soon.** No date has been set for the start of the patrol project; negotiations are still in progress, but it's expected they can be completed soon.

There is this ironic footnote to the story: When the patrols do begin, two of the men who had the most to do with researching the project won't be around to see their bird fly. V. L. Preisser, former assistant vice president-accident and loss prevention, at C&NW, is now at Litton Industries; D. L. Nelson, former manager-field inspection force and property security, has joined Penn Central. It was their group at C&NW, working with chief special agents of the other roads, which began the patrol study, almost two years ago, and kept it going. ■

FREIGHTMASTER'S NEW $3.3-MILLION manufacturing plant and headquarters in Ft. Worth. Starting next month, all the company's end-of-car cushioning units for railroad cars will be assembled in this 160,878-square-foot structure.

Car-cushioning maker expands operations

Pampering rail cars and their cargoes is what FreightMaster end-of-car cushioning units are all about. Very shortly, however, there will be a slight turn of events—instead of being the ones to do the pampering, the units themselves are going to receive some pampering.

● **New quarters.** The entire FreightMaster operation—production facilities, general offices, and all—is now in the midst of moving into new quarters in Ft. Worth, Tex. A $3.3-million manufacturing plant, in an open country section of the city, is receiving its final touches. At the same time, production machinery—including $1.5-million in new equipment—is being moved in at a steady pace. And the firm's 500-plus employees are gradually making the transfer from the existing FreightMaster facility near downtown Ft. Worth.

Because of the duty they must perform—that of absorbing the tremendous forces that can be dealt a car during train make-up impacts and, to a lesser degree, during over-the-road movement—cushioning units of all types lead a tough life while out in service. While going through the production process in its new plant, though, the FreightMaster cushioning unit is going to have it pretty nice. One of several outstanding features of the new 160,878-square-foot, concrete/metal structure is that it will be air-conditioned throughout. Three gas-operated York air conditioners will provide a maximum of 950 tons of cooled air, a sufficient amount to keep the entire 260- by 560-foot building at a comfortable temperature.

● **Bigger market.** "An expanding market for the end-of-car cushioning units," advises Tom Painter, vice president and general manager, is one of the developments that prompted FreightMaster to seek a larger plant. The new building is over 70,000 square feet larger than the firm's existing multi-building complex in Ft. Worth. Twelve-year-old FreightMaster, a division of Halliburton Company, hopes the new plant will enable it to take a commanding lead in the end-of-car cushioning field.

Since its formation in 1958, FreightMaster has manufactured and placed in service well over 50,000 car/sets, with cushioning strokes of the units varying anywhere from seven up to 15 inches. Besides making FreightMaster even more competitive in the rail-car-cushioning field, Painter also see the new plant "making us better capable of meeting our customers' requirements."

● **Quality control.** The new plant also will help FreightMaster carry out what is already a stringent quality control program. A big assist in the quest for consistency and reliability of each cushioning unit and its 450 or so components will be the air-conditioning, advises O. E. Seay, chief mechanical engineer. He points out that being able to maintain an even temperature throughout the entire building at all times will go a long way toward assuring consistency in the production of precision parts. Furthermore, he adds, "all of our precision tools and measuring devices—like micrometers, for example—will be less apt to change from day to day because of changes in the outside temperature."

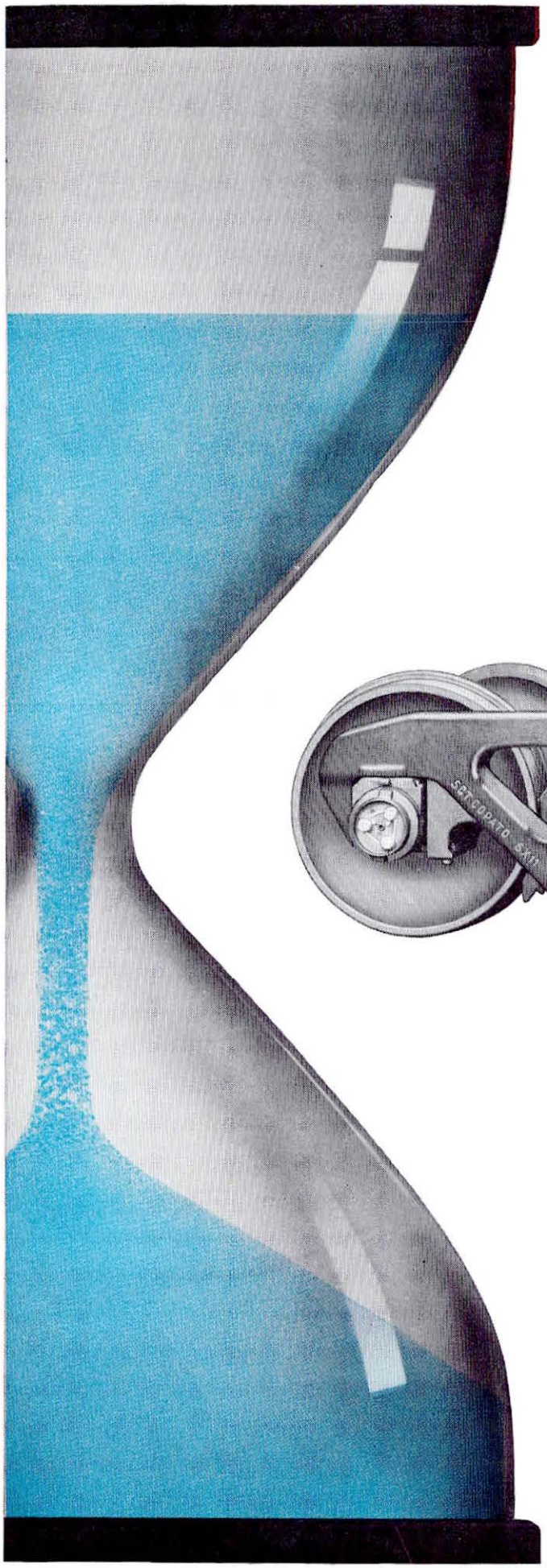
FreightMaster has eight basic end-of-car cushioning unit designs—with certain variations thereof—on the market. This entire line of products will be moved into the new building. The production process of the units, however, will be undergoing numerous changes in the new location. About a dozen new machines have been ordered for the new plant, says W. C. Wright, manufacturing manager. Much, but not all, of the new machinery was selected for its ability to improve quality or efficiency, or both.

To go along with existing machines moving in from the downtown plant site, there will be new tape-controlled lathes, new welding machines including micro-arc equipment, shot-blasting equipment which will be able to clean a unit in three-and-one-half minutes, plus numerous other production items. If experiments now being conducted with a special electro-static filtering system are successful, such a system will probably be installed at welding stations, Wright says.

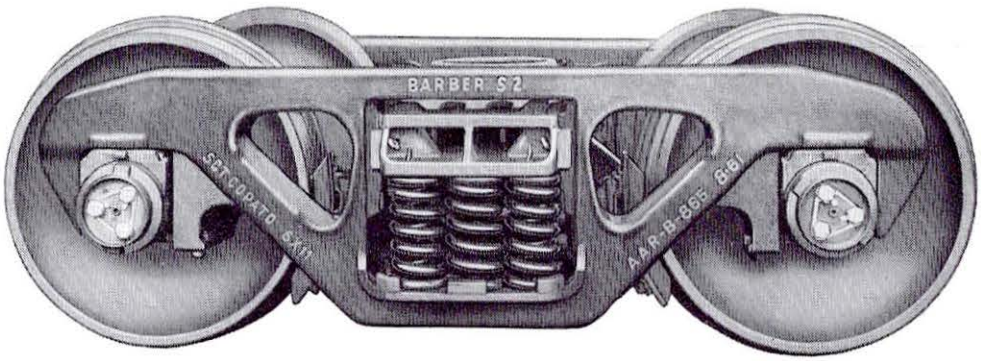
The new machine which may command the most attention in the new plant is a 40-station Knutti combination drilling/tapping machine. This virtually automatic machine, made in Italy, will be able to completely machine a unit's cylinder in three minutes. With existing machinery, it takes about one hour to do the work.

● **Streamlining.** Strong emphasis is placed on material flow and assembly line procedures in the new structure. Because of the move from a multi-building complex to a plant all under one roof, FreightMaster plant engineers and production specialists have been able to use some streamlining methods never available to them before. The plant is laid out to permit a logical flow of raw and semi-finished materials from the receiving and warehouse area, through the varied and various machining and sub-assembly areas, and on

(*Continued on page 47*)



IS LONGER LIFE *THE REASON FOR* BUYING BARBER STABILIZED TRUCKS?



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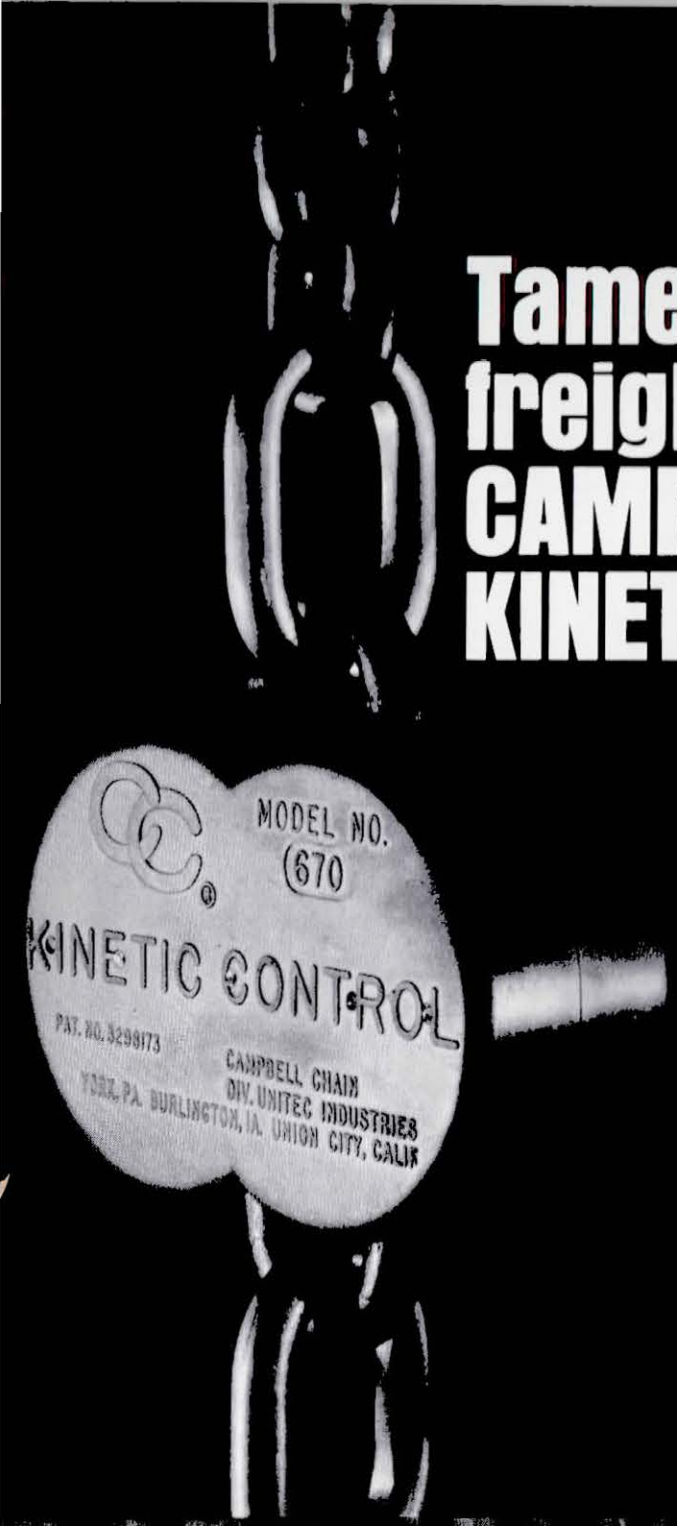

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For more information on the Kinetic Control unit, or any chain application, contact us at Box 1667, York, Pa. 17405.

CAMPBELL CHAIN
Division of Unitec Industries

Car-cushioning maker expands operations

(Continued from page 42)

toward the unit assembly lines. From the assembly lines, the units move to the paint room and finally on to the shipping area.

Overhead cranes and overhead conveyors are used extensively throughout. All assembly lines, for instance, have overhead conveyors, as does the paint room where a special water shield is used to catch any overspray. All gasses and liquids needed to manufacture the units are stored in a separate locale and piped in overhead to the proper work stations, too.

FreightMaster planners are putting the computer to work on the things it can do best. Punch cards are to be used, for example, to maintain inventory control of materials destined for the various work stations.

● **Served by the T&P.** The new plant on a 50-acre site (30 acres are fenced), is served by the Texas & Pacific, and has shipping docks served by truck as well as rail. About 115 feet of the rail siding are under roof. This loading area, like everything else under roof, is air-conditioned. If FreightMaster research activities should be moved from the Halliburton research center in Duncan, Okla., to the new plant, there would be plenty of space for it adjacent to the T&P spur track, Wright pointed out.

Moving a plant and an entire work force is never a simple task, even when the move is a short, in-city one. There is usually a brief period at some point in the transfer of operations when production virtually ceases. Anticipating a curtailment of shipments for a short time during the move, FreightMaster contacted its railroad and carbuilder customers some time ago, requesting adjustments in delivery requirements. "Railroad and carbuilders alike have been most cooperative," reports Paul Howard, sales manager. "We simply explained what our move was all about. Those customers scheduled to receive deliveries of units during the moving period offered to make any adjustments that would help us."

The new plant should be in operation some time toward the end of May. Then, within a few weeks, FreightMaster people feel, unit production should be approaching the projected rate. All that will be left then is to hold an Open House so the new $3.3-million plant can be officially dedicated. That, says Howard, is exactly what is planned—for mid-June. And, even a man-size Texas heat wave won't be able to interfere with the plans. ■

Watching Washington

FRANK MALONE

RAIL CRITIC CARPS WITH COOL

He carries no sign and wears no button. He issues no scalding reports on Government agencies.

But Jacob P. Billig, who looks like any young lawyer in a city with curb-to-curb lawyers, is a protester.

And he protests against the same thing as many sign-toters and report-writers, alleged abuse of the consumer by a carrier-regulator complex.

The thing about Billig is that he carps with cool, through his normal routine as shipper counsel in things like rail mergers and car-cleaning duties—a routine comfortably, calmly and clearly within the establishment. In one current case, Billig moves from shipper to straight consumer interests. He is attempting to turn a proceeding on rates for vegetables and melons (in which carriers won the first round) into a lemon for the railroads (p. 12).

Whatever the case, Billig squeezes in this message: The ICC needs shaking up to make it more responsive to public needs, and in the process the railroads may be shaken up, too.

FOR AN INDEPENDENT, REFORMED ICC . . .

Billig, however, does not go around calling for the ICC's abolition. On the contrary, he defends the independent existence of the Commission. Billig tells a Senate hearing that proposals to establish an advisory board to oversee ICC handling of rates would be ridiculous. Advisors, Billig says, would hurt carriers, shippers and consumers alike. Advisors would turn rate regulation into a "political playground," and use up money ICC needs to do its own job, Billig adds.

But in its preservation as a free agency, Billig says, ICC must be reformed into an agency that is capable of improving the quality of "transportation life."

. . . THAT ANSWERS SOME POINTED QUESTIONS

As a start, Billig says, ICC should conduct a rule-making proceeding to determine how each carrier's inherent advantage can be protected—and *passed on to the public.* That would apply beyond the limited area of intermodal competition.

The proceeding, according to Billig, should first ask: Why not abandon the ICC practice of approving rate increases only on the basis of *past* carrier costs? Why not make carriers show that their costs are the *least* costs under the *most economical and efficient management?* In other words, "Should not the railroad be required to show that . . . it is truly and fully exerting its inherent advantage as a railroad?"

Second, Billig says, why not make carriers apply the revenue from rate increases directly to the maintenance and improvement of the service for which the increases are sought?

Third and most strongly, Billig asks, why not make rate increases contingent on carriers showing that their service improves after the increase is granted? That would mean canceling the increase if no improvement shows up, and if carriers cannot prove the failure was "beyond control."

TTX: A concept due for major expansion?

An expansion of Trailer Train to cover other types of freight cars and establishment of similar groups to meet industry problems such as the supply of motive power were discussed by Curtis D. Buford, TTX president, recently. At the annual Joint Railroad Conference sponsored by the American Society of Mechanical Engineers and the Institute of Electrical and Electronics Engineers, Buford said that the Trailer Train version of the industry-wide organization has worked very well indeed—so well that there is a bright future for TTX even if it confines itself to the flat-car field.

"Railroads can join together with enthusiasm and commit their financial support to creating a successful growth company serving all railroads in a particular field really better than each may have been able to do by itself," observed Buford. "One wonders if this lesson can be applied to other basic rail industry problems.

● **Locomotives, fixed plant?** "There are many other pervasive problems in the railroad industry including highly taxed rights-of-way and diverse types of motive power. The large multi-railroad joint venture non-carrier corporation might be a useful tool to attack various joint and basic problems shared by many railroads. Perhaps special financing abilities can be developed, or tax policies revised to fit such entities."

Buford predicted that the twelve varieties of flat cars now operated by TTX will grow to other types. "We may be involved in the development of special heavy-duty flat cars to carry out-sized shipments or items of very heavy weight. We own none of these cars at present, but are engaged in studies with railroads and shippers to determine whether or not this field would be appropriate to enter on behalf of our railroad members." The most recent addition to the TTX fleet has been the "finger rack" car for Bethlehem Steel (see page 30).

● **Beyond flat cars.** Almost daily, according to Buford, Trailer Train is confronted with railroad requests for expansion beyond the flat-car field into equipment of other styles and types. "Our present policy is to stay with the flat cars," he continued. But persistent pressure from railroad members is causing Trailer Train to review carefully "the various facets of our structure in order to be as near ready for such expansion as we can, if called upon to enter upon it."

Technical sessions at the Philadelphia meeting gave much attention to railway electrification—a technology in which America was pre-eminent until the 1930s. Since then, however, much of the progress in this field has been the accomplishment of overseas railway systems and suppliers. Recently, British Rail announced authorization of a 250-mile extension of its electrification from Crewe to Glasgow, Scotland. Overseas participants in the Conference indicated that similar steps are planned in other nations.

One speaker was F. Nouvion, head of French National Railways' traction design department, who has been a pioneer in high-voltage, commercial-frequency electrification, which is now accepted throughout the world. This technique was utilized in America for the first time on the Muskingum Electric Railroad which opened a year ago in southeastern Ohio.

The French, said Nouvion, have perfected routine electric operation at 125 mph and are now working to run at even higher speeds. Recently, French National ran some 175-mph tests to appraise current collection and adhesion at high speed. It has been decided that track maintenance in excess of that required to assure passenger comfort at 80 to 90 mph with conventional cars would be uneconomical.

● **New guideways?** Alfred Kniffler, chief mechanical engineer of German Federal Railways, reported that his system is preparing to implement a comprehensive network of high-speed intercity passenger services throughout West Germany. As with the French, the goal is operation at 125 mph.

Along with a searching look at the present rail network, the Germans are making plans for guideway systems which might supplement present railroads. A group is investigating techniques which might permit movement of people and containers at 200-mph speeds.

While Europe accepts electrification and is currently investigating the absolute limits of this type of traction, the U.S. is still faced with the decision of whether to electrify at all. J. L. Everett, executive vice president of Philadelphia Electric, told the Conference that the opportunity for long-term savings makes railroad/utility investigations of electrification of heavy-traffic lines worthwhile. ■

Car supply plagues shippers, railroads

(Continued from page 37)
because of the extreme peak demand and the shortage of railway equipment."

● **Car condition.** The unsatisfactory condition of freight cars was given by many Poll respondents as a reason for diverting traffic from railroads.

"We use rail only when necessary," said George F. Horesta, manager traffic and transportation, Raybestos-Manhattan, Passaic, N.J.

"Our primary problem is dirty freight cars," he continued. "In many cases we would like to divert, but because we have no choice and are at carrier's mercy we must clean a good percentage of cars for loading, at considerable expense. Labor expenses are as high as $100 per car."

Car condition, shortages and slow service were all mentioned as reasons for diverting rail traffic to road haulers by Richard J. Petska, manager transportation bureau, Cedar Rapids, Iowa, Chamber of Commerce.

"We have had many of our members advise us of sending grain products by motor carrier that would normally have moved by rail." Petska wrote. "Grain processors received many cars that could not be used because of the bad condition they were received in.

"We had a six-week period last fall in which our heavy machinery people were unable to obtain flat cars and gave the freight to heavy haulers in the motor industry."

Petska concluded by mentioning several local industries that received "very slow service to the East Coast— 20 to 25 days. Several advised that they had had rail cars that took 10 days to Chicago—225 miles away."

● **Demurrage and per diem.** E. J. Davis, director of traffic, Caterpillar Tractor Co., Peoria, Ill., said he is "firmly convinced that the only way we are going to improve our car supply is through an incentive program of high demurrage and equally high per diem.

"This," Davis added, "will create an incentive for the shippers to unload and load equipment quickly and it would also be an incentive for the carriers to speed up the movement of the loaded cars, as well as the return of empties. This, in my opinion, will not only result in better utilization of present equipment and go a long way toward eliminating the chronic car shortage but should recapture some traffic for the railroads that has been lost to other forms of transportation because of poor service." ■

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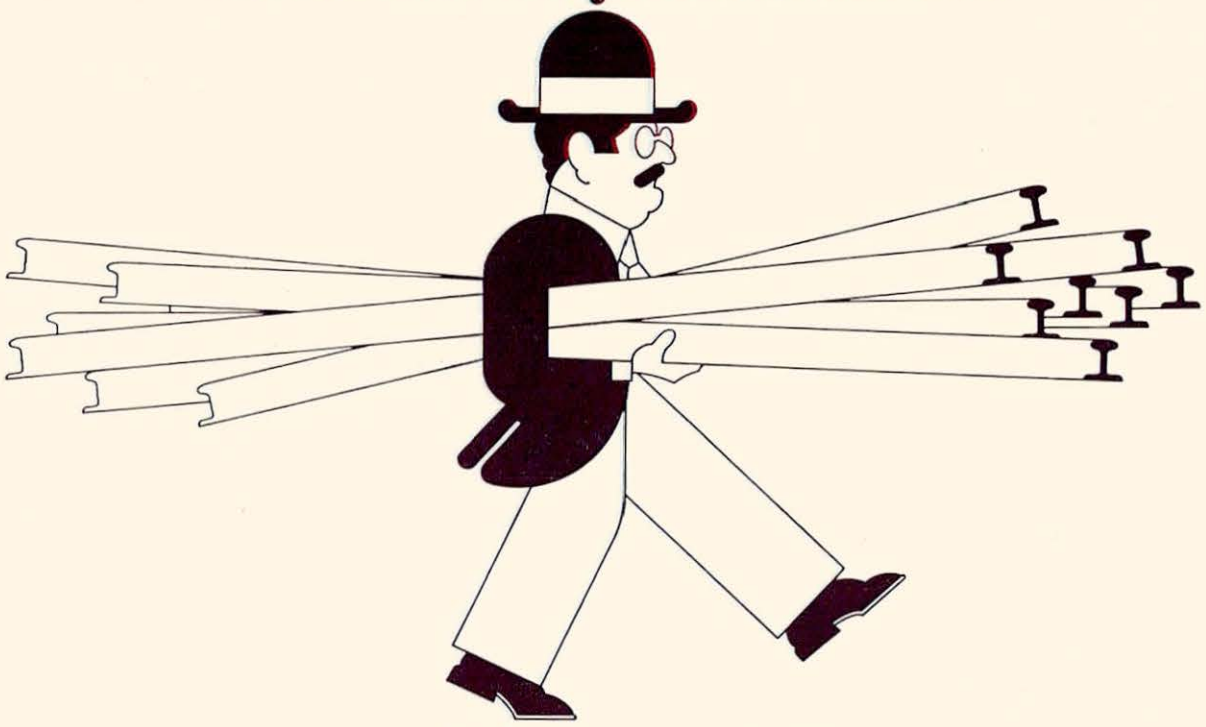
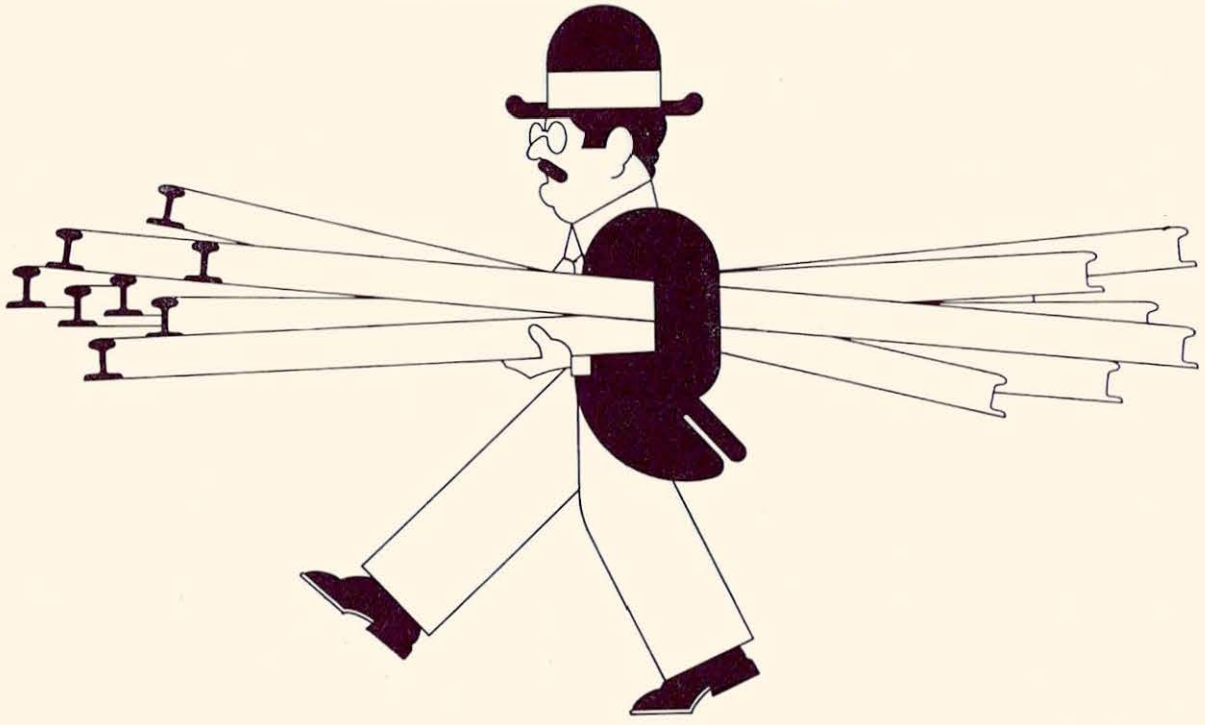


or take yours up



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Circle 18 on coupon page 77

People in the News

ASSOCIATION OF AMERICAN RAILROADS.—Charles A. Yacuzzo named special representative, Freight Loss and Damage Prevention Section, Chicago.

Norman A. Hurley appointed special representative, AAR's Freight Loss and Damage Prevention Section, Chicago.

E. Spencer Miller, president and board chairman, **Maine Central,** selected as a member, AAR's Executive Committee, representing the Eastern region railroads.

BURLINGTON NORTHERN.—In the Billings region, **W. R. Shannon** appointed assistant vice president, operations; **S. A. Anderson,** superintendent, Yellowstone division, Glendive, Mont.; **M. E. Hagen,** superintendent, Rocky Mountain division, Missoula, Mont.; **J. L. Hanks,** manager transportation, Billings, Mont.; **J. S. Simpson,** manager, mechanical, Billings; **G. A. Staeheli,** regional superintendent, locomotives, Billings; **F. A. Whalstrand,** regional superintendent, cars, Billings; **D. Peinovich,** manager, engineering; **H. J. Wilkins,** regional engineer, Billings; **W. H. Ferryman,** maintenance engineer; **J. L. Elpel,** regional signal supervisor, Livingston, Mont.; **D. C. Hill,** assistant director, communications, Billings and Minneapolis regions; **W. A. Johnson,** division engineer, Rocky Mountain division, Missoula; **L. W. Anderson,** master mechanic, Yellowstone division, Glendive; **H. J. Bell,** master mechanic, Rocky Mountain division, Livingston.

In the Seattle region, **J. H. Hertog** named assistant vice president, operations, Seattle; **D. S. Nelson,** superintendent, Montana division, Great Falls, Mont.; **T. W. Mackenroth,** superintendent, Pacific division, Seattle; **J. G. Heimsjo,** superintendent, Spokane; **A. B. Johnson,** manager, transportation, Seattle; **C. F. Intlekofer,** manager, engineering, Seattle; **G. E. Scholze** regional engineer, Seattle, **J. N. Bone,** maintenance engineer; **D. E. Peterson,** regional signal engineer; **W. T. Kennelly,** manager, mechanical; **T. G. Kotnour,** regional superintendent of locomotives; **M. W. Montgomery,** regional superintendent, cars; **H. W. Bacon,** division engineer, Pacific division, Seattle; **W. D. O'Hearne,** division engineer, Spokane; **R. Annala,** division engineer, Montana division; **C. H. Moreau,** master mechanic, Pacific division, Seattle; **A. Stranik,** master mechanic, Spokane division, Spokane; **E. N. Roberson,** master mechanic, Montana division, Great Falls.

In the Portland region, **J. W. Wicks** named assistant vice president, operations, Portland; **F. S. Barlow,** division superintendent, Portland; **K. D. King,** division engineer, Portland; **D. H. Garrison,** manager, transportation; **C. H. Wesman,** assistant director, communications, Seattle and Portland regions, with temporary headquarters at St. Paul. Mr. Wesman will stablish headquarters at Seatlle later this year. **H. F. Moy** becomes manager, engineering; **G. E. LaSalle,** regional engineer; **D. D. Thomas,** maintenance engineer; **M. B. Walker,** regional signal engineer, Portland; **L. Z. Daniels,** manager, mechanical, Portland; **E. L. Kennard,** regional superintendent, locomotives; **C. W. Goodwin,** regional superintendent, cars; **D. R. Smart,** master mechanic, Portland division, Vancouver, Wash.

In the Chicago region, **R. G. Johnson** appointed assistant vice president, operations, Chicago; **E. F. Hutchinson,** assistant director, communications, Chicago and Omaha regions; **R. V. Jabens,** manager, transportation, Chicago; **W. L. Arntzen,** superintendent, Chicago division, Cicero, Ill.; **I. G. Toland,** superintendent, Hannibal, Mo.; **I. W. Crist,** superintendent, Ottumwa division; **J. F. Vey,** division engineer, Chicago division, Cicero; **A. M. Birkeness,** division engineer, Hannibal division, Hannibal, Mo.; **W. G. Farrell,** division engineer, Ottumwa division, Ottumwa, Iowa; **W. A. Thompson,** manager, engineering, Chicago; **D. F. Merrill,** regional engineer, Chicago; **L. R. Hall,** maintenance engineer; **D. H. Thomsen,** regional signal engineer; **J. R. Van Nortwick,** manager, mechanical; **J. R. Williams,** regional superintendent, locomotives; **J. W. Ferguson,** regional superintendent, cars; **F. P. Martin,** master mechanic, Chicago division; **H. H. Niemeyer,** master mechanic, Ottumwa division, Kansas City, Mo.; **S. F. Kuzma,** master mechanic, Hannibal division, Galesburg, Ill.

In the Omaha region, **J. E. Hamer** appointed assistant vice president, operations, Omaha; **E. L. Phillips,** superintendent, Lincoln division, Lincoln, Neb.; **J. G. Edwards,** superintendent, Alliance division, Alliance, Neb.; **J. A. Daume,** division engineer, Lincoln division, Lincoln; **K. L. Marshall** and **R. C. Gustafson** division engineers, Alliance division, Alliance and McCook, Neb., respectively; **E. P. Hutchinson,** assistant director communications, Chicago and Omaha regions, Chicago; **O. E. Stevens,** manager, transportation, Omaha; **A. J. Strobel,** manager, engineering, Omaha; **T. D. Livingston,** regional engineer Omaha; **D. L. Walker,** maintenance engineer, Omaha; **M. R. Roberts,** regional signal engineer; **H. Blitz,** master mechanic, Alliance division, Alliance; **P. E. Poindexter,** master mechanic, Lincoln division, Lincoln; **A. Baker,** manager, mechanical, Omaha; **H. M. Ford,** regional superintendent, locomotives; **W. Bauer,** regional superintendent, cars, Omaha.

In the Twin Cities region, the following superintendents appointed: **R. O. Hammerstrom,** Twin Cities division, Minneapolis; **W. S. Byrne,** Lake division, Superior, Wis.; **B. V. Coyer,** Fargo division, Fargo, N.D.; **D. H. Burns,** Dakota division, Grand Forks, N.D.; **P. B. Rasmussen,** Minot division, Minot, N.D.

The following superintendents named to direct operations of principal car shops. **D. T. Capistrant,** Como and Jackson Street Shops, St. Paul; **C. W. Jordan,** Brainerd Shops, Brainerd, Minn.; **L. P. Zierden,** St. Cloud Shops, St. Cloud, Minn., **C. R. Bignel,** Aurora shops, Aurora, Ill.; **J. N. Nemeth,** Havelock Shops, Havelock, Neb.; **A. E. Hedlund,** South Tacoma Shops, South Tacoma, Wash. **J. F. Hecht** appointed assistant shop superintendent, Jackson Street Shops, St. Paul.

To direct operations of principal locomotive shops, the following superintendents appointed: **M. A. Lang,** Dale Street Shop, St. Paul; **L. L. George,** West Burlington Shop, West Burlington, Iowa; **D. K. Jaeb,** Hillyard Shop, Hillyard, Wash.; **A. Jacobson,** Livingston Shop, Livingston, Mont.

CHICAGO & NORTH WESTERN.—E. F. Shufeldt, assistant to vice president-systems and information services, named director of internal auditing. **R. F. Guenther** appointed auditor capital expenditures.

Robert A. Sharp, director-marketing planning, named assistant vice president-marketing planning. **J. F. Battel, J. R. Feddick** and **R. E. Gotshall** advanced to the newly created positions of general market manager. Mr. Battel, formerly marketing manager, pulp and paper, will be responsible for pulpwood, paper and paperboard products, lumber, construction materials, government supplies and shipments, and varied manufactured products. Mr. Feddick, formerly marketing manager-grain and grain products, will have responsibility for grain, grain products, oil seeds, miscellaneous crop and farm products, animal feeds and manufactured items based on grain. Mr. Gotshall, previously marketing manager-coal, petroleum and petroleum products, will be responsible for basic products, such as coal, coke, petroleum, chemicals, fertilizers and primary metals.

Douglas A. Christensen, marketing manager-food products, named director of industrial development.

W. P. Allman, assistant vice president-advanced systems, named to the newly created position of assistant vice president-staff services. Mr. Allman will direct the new Staff Services department, which, initially, will develop work measurement and standards programs; simulation studies involving operations and facilities; financial, economic and cost models; forecasting systems for sales and marketing activities, and will study internal information systems.

(Continued on page 57)

Railway Age Index

The index to Volume 167 of Railway Age, July-December 1969, is now ready for distribution. Copies may be had by those subscribers desiring them. Requests should be addressed to the Circulation Department, 508 Birch St., Bristol, Conn., 06010. Subscribers who have in previous years made application for the index need not apply again. They will continue to receive it as long as they continue to subscribe.

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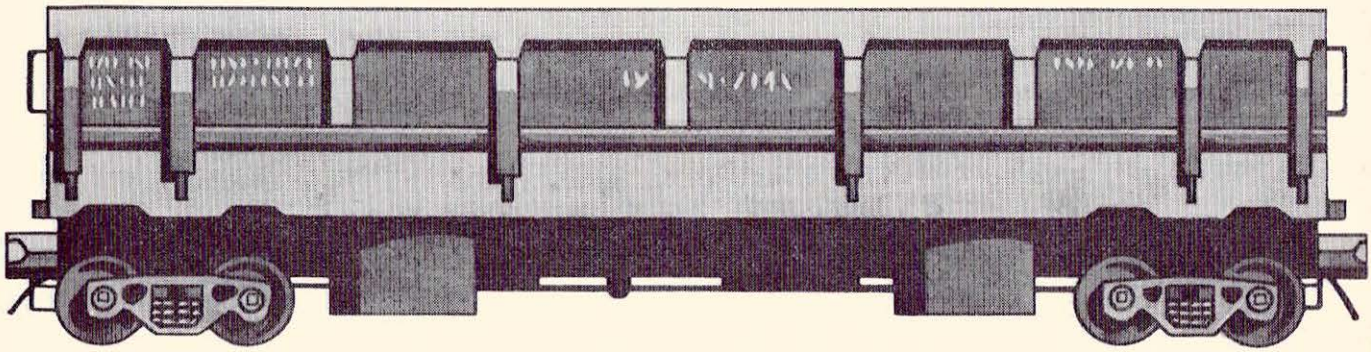

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Circle 19 on coupon page 77

Centralized control system keeps IC

Key to centralization is a $4-million microwave system that follows the railroad's mainline from Chicago to New Orleans.

Illinois Central's Mid-America Information Network (MAIN) is more than just a data collection and processing system. It is the major means by which management controls the railroad. Key to control, say many systems analysts, is centralization where management and supervision are located. And IC has centralized control at its Chicago headquarters.

"The first logical step," says George Pipas, vice president communications and computer services, "is the integration of communications and data processing." Also logical was centralizing of operational control, such as train dispatching and car distribution.

• **All dispatchers at Chicago.** Dispatchers from five locations have been transferred to Chicago. As part of this move, five centralized traffic control machines covering 460 miles of road were relocated to dispatching headquarters. "Decisions are now based on railroad benefits instead of divisional," says Pipas. Adjacent to the dispatchers' location in Chicago is a central motive-power dispatching facility. No longer are motive-power assignments the sole prerogative of division chief dispatchers.

As an aid to dispatchers in their work, controls are being installed so that, by the end of this year, 19 VHF base radio stations along mainlines can be operated from Chicago. Such dispatcher control will provide immediate communications directly to moving trains. Also, controls will enable train crews to directly contact dispatchers.

Also centralized at Chicago is the reporting of overheated journals by 22 hotbox detectors strategically located along IC's main lines. Reports from hotbox detectors are printed on plastic coated paper in pengraph recorders, one recorder for each detector.

• **Microwave is key system.** With centralization at the road's headquarters, an early determination in the study for a management information system was that microwave would be essential. IC's $4-million microwave system runs along the north-south mainline from Chicago to New Orleans. It was a turnkey installation handled by Lenkurt Electric Co., Inc. Basic capacity is 420 voice channels. This can be expanded if necessary.

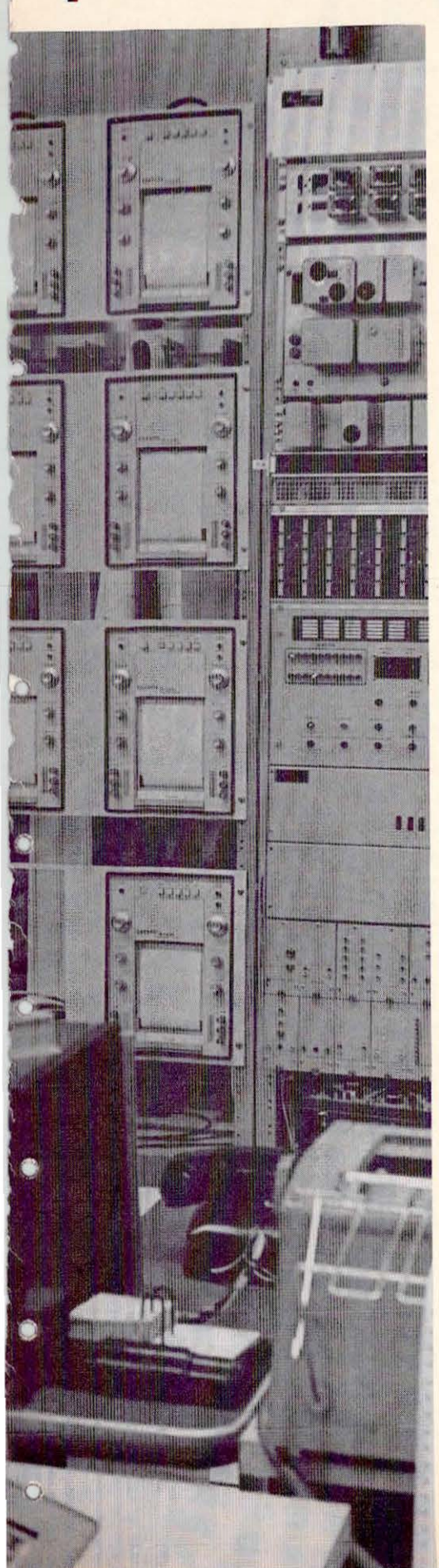
"Owning our microwave system gives us control that is so vital, and also the flexibility that is so important for such a large system with the many varying requirements that we have on Illinois Central," says James C. Taylor, director of communications. Data collection from all over the railroad is fed into the microwave system for transmission to Chicago for processing. Reports, orders and analyses flow from IBM 360 Model 50 and 65 computers to offices in the field along the railway and to 47 off-line traffic offices in the U.S. and Canada.

• **Interchange circuits.** Agreement has been worked out with Southern Pacific to exchange microwave channels. SP will connect its microwave system with IC's at Memphis, Tenn. SP will provide IC with circuits to its various off-line traffic offices on the West Coast and in Texas. In turn, IC will provide communications channels for SP to New Orleans and Chicago. Also, IC and Southern are working on an arrangement for these two roads' microwave systems to connect at New Orleans. This will provide Southern with connections to Chicago and Memphis, and IC with communications to its southeast off-line traffic offices. IC microwave may serve as the connecting link to provide communications enabling SP and Southern to communicate via each other's microwave systems if suitable agreements can be worked out.

In another area of communications exchange, IC is providing interchange data to other railroads on a dial-up basis between IBM 1050 units. At Council Bluffs, Iowa, IC exchanges interchange data with Union Pacific. At Chicago, the Elgin, Joliet & Eastern, Chesapeake & Ohio, Grand Trunk Western and IC exchange interchange data via 1050 units. At New Orleans, IC works with Louisville & Nashville and SP on exchanging interchange data.

• **25 million characters.** Data handling is of two distinct types—car movement including waybill information, and administrative messages. Together, these two items now account for about 25 million characters in and out per day through the IBM 360 Model 50 message-switching computer. Depending upon number of cars handled at a yard, two types of reporting terminals are used: Teletype Model 28 (100 words per minute transmission speed) for yards handling less than 200 cars per

operations up-to-the-minute



day (in and out, double count); IBM 1050 for larger yards (punched card transmission at 150 words per minute).

Eighteen yards are equipped with Teletype terminals and 66 yards are equipped with IBM 1050 units. A total of 125 Teletype terminals and 86 IBM 1050s are used by IC in the general office and traffic offices, as well as in yards. At the Chicago general office, 14 IBM 2260 cathode-ray-tube display units are used in traffic, car control and service bureau offices. These units provide direct readout of car movement information from the computer.

In this area of data control, L. T. Coyle, director data control and station operations, reports that his group is about to launch a second training program for clerks and other station personnel involved in data reporting. The aim is to further refine reporting techniques and improve efficiency in reporting, and to further reduce errors.

There is need for new and faster terminals to communicate with the computer, says Pipas. There is need for programmable terminals so that disciplines for accurate reporting of data can be enforced. IC, says Pipas, is close to testing optical character recognition devices which should eliminate some key-punching efforts. Source documents designed by IC are constructed for scanning by OCR devices.

In the data processing area, IC has replaced an IBM 7080 and 360 Model 50 with a Model 65 computer. The new 65 handles batch processing, and can act as backup for the Model 50 message-switching computer. IC is able to run six programs simultaneously on the Model 65 to handle its bulk batch processing jobs.

● **Centralize hotbox readouts.** Centralization of hotbox detector reporting, Pipas believes, provides for accurate interpretation of recorder tapes and prompt response to alarms because the tape recording analysis is one man's responsibility. Unlike the train dispatcher who has many functions, IC's Train Detector communicator has the main responsibility of responding to hotbox detector alarms.

Passage of a train by a hotbox detector actuates a pengraph recorder in the TD office at MAIN Central (computer room) in Chicago. Detection of an overheated journal actuates an alarm chime to alert the TD communicator. He immediately calls the train crew and alerts them to the fact that the train has an indicated hotbox. The crew is directed to stop the train. The communicator then inspects the detector tape and counts the number of axles to the rear or the front of the train, whichever is nearer the indicated overheated journal. He radios the crew, telling them the location of the overheated journal.

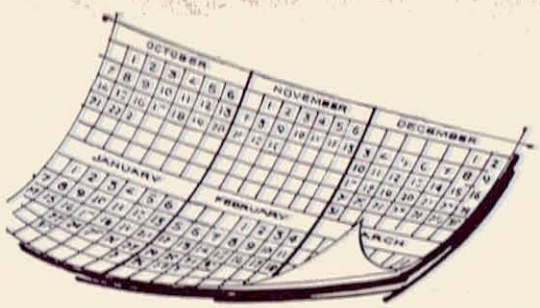
The VHF base radio station used by the TD communicator to alert the train crew can also be controlled by the train dispatcher. However, a priority system is incorporated in the controls whereby the TD communicator has the highest priority. He can take over control of the radio station from the dispatcher. But the dispatcher can monitor all calls made to or from these base stations. He can mute his monitor speaker so he can work undisturbed unless he is called by a train crew. As for hotbox detector actuation, the TD communicator alerts the dispatcher about the situation including the identification of the train involved.

● **Outlook for ACI.** IC is planning to install two automatic car identification scanners this year at the south end of its Chicago Markham classification yard for checking inbound and outbound trains, eliminating the use of a closed-circuit TV system. Immediate gain will be an increase of train speeds from 5 to 15 mph, as well as an accurate check of the trains.

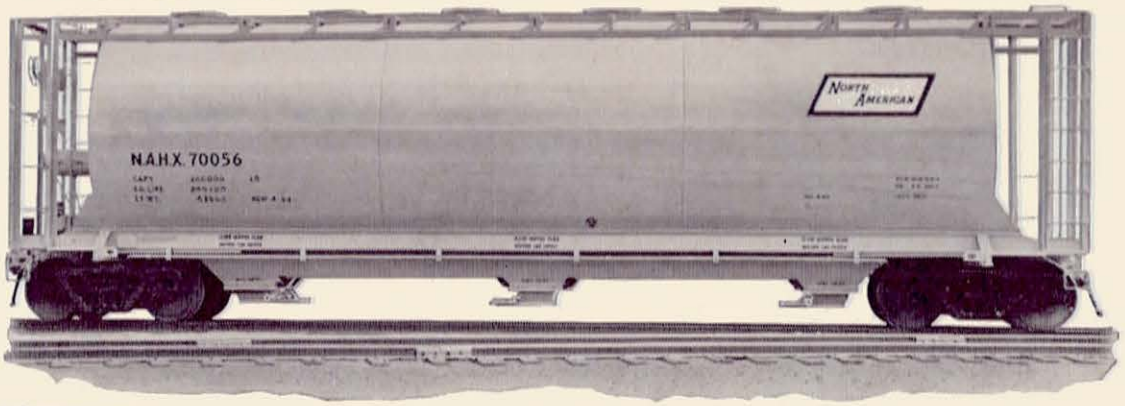
Other plans for ACI on the IC include coverage of the Memphis terminal area, as well as installation of ACI at 10 other locations, mostly joint-facility spots and interchange points. Also, IC is looking into the possibility of providing ACI systems for checking piggyback trailers into and out of a major TOFC/COFC terminal.

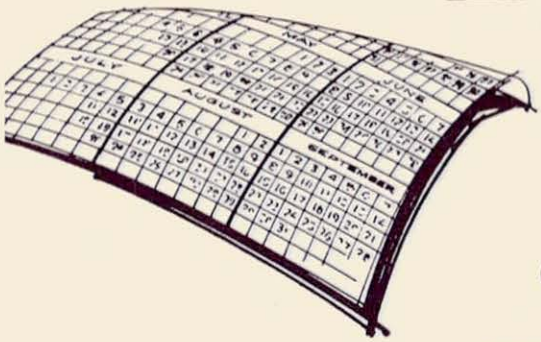
In all these ACI installations, plans are to bring the data into the central computer at Chicago. Although the Markham installation will be with local readout in the yard office, it may be brought into Chicago, or into a process control computer, should terminal control be established at Markham for handling automatic switching and retardation at the two hump yards.

In all these efforts, IC has taken the best of both possible worlds of communications and computer operations. "Merging of communications and data processing is a gain for both," says Pipas. "The systems knowledge of data processing is available to communications experts and the technical ability of the communications engineer is available to the systems analyst and data processing manager." ■



SPLIT





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Our customers call it least-cost leasing

WHEN YOUR shipping valleys mesh with another company's peaks, you have the perfect split-lease situation that North American innovated for its lessees years ago to reduce their annual rental costs.

While we can't very well split a car, we can split a lease between you and another seasonal shipper. You lease and pay for the cars you need only during the period you need them, and then pass the cars and the cost on to someone who is happy to take both off your hands.

If your railroad car needs are seasonal and you want to share the annual rental cost with someone who needs cars contra-seasonally, why not talk it over with us? *We have years of experience in this form of least-cost leasing.*

What kind of cars? Tanks...Covered Hoppers...RBL's. Want to know more? Call us.

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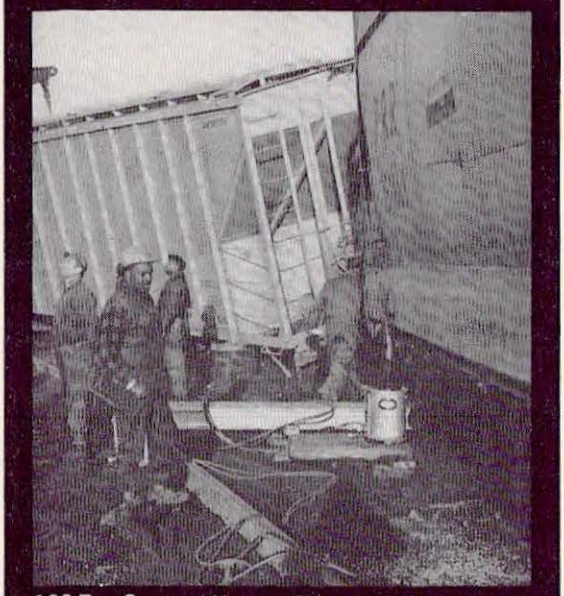
MEMBER RPI RAILWAY PROGRESS INSTITUTE

NORTH AMERICAN

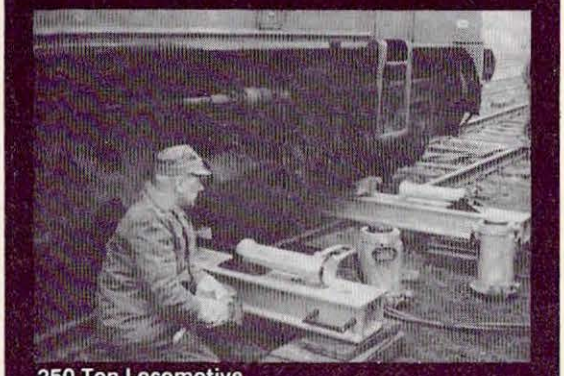
creates the cars that solve your problems

Circle 20 on coupon page 77

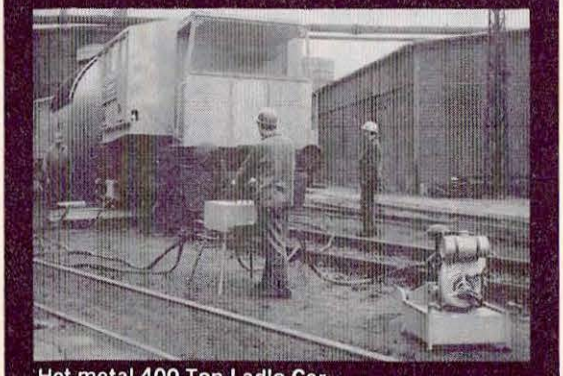
115 Ton Switch Yard Locomotive



100 Ton Covered Hopper Car



250 Ton Locomotive



Hot metal 400 Ton Ladle Car

Are Repairing Costs Eating Up Your Profits?

Then why send out 15 men and heavy equipment to rerail, when 4 men and Hoesch's portable device can do the job . . .

SAFE·QUICKER·CHEAPER

Let us compare . . .

	CURRENT PRACTICE	HOESCH MFD METHODS
Labor required	15 men	4 men
Equipment required	Locomotive Wreck crane Tender Boom Car Cable Car Sleeper Diner car Caboose	HOESCH MFD PORTABLE DEVICE 1 TRUCK

YOUR SAVINGS:

1. Five train crew members who can be released for other necessary road and yard switch work.

2. Six car men who can continue to work on important car repairs work at the rip track.

3. Reduced damage to cars and lading as compared with the use of the wreck crane—many cars not physically damaged in the derailment itself are damaged through the use of the big hook.

4. No need to hold a standby locomotive to supply compressed air to operate the pneumatic jacks.

American Hoesch Inc.

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Also manufacturers of:

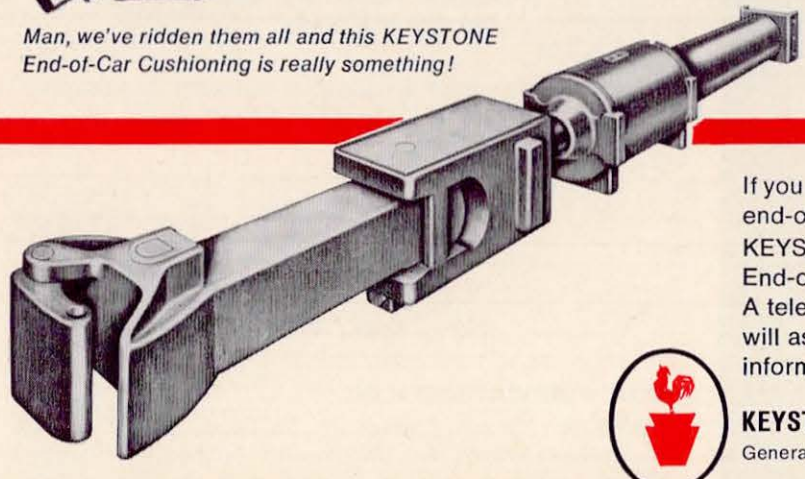
Hydraulic Wheel Presses • Pit-Type Wheel Lathes • Numerical Wheel Set Measuring Stands • Heavy-duty Wheel Lathes • Journal Turning and Grinding Machines • Turn-tables and Transfer Bridges •

Circle 21 on coupon page 77

Talk about a sure thing and a real soft touch...

Man, we've ridden them all and this KEYSTONE End-of-Car Cushioning is really something!

You know I almost slept through my stop because I didn't feel 'em switching!



If you are considering reliable end-of-car cushioning, investigate KEYSTONE SHOCK CONTROL End-of-Car Cushioning Units. A telephone call to 312/427-7160 will assure you of getting complete information, prices and delivery.

KEYSTONE RAILWAY EQUIPMENT COMPANY

General Offices: 310 S. Michigan Avenue
Chicago, Illinois 60604

Manufacturing: Camp Hill, Pennsylvania 17011

Circle 22 on coupon page 77

Robert A. Sharp
C&NW

D. A. Christensen
C&NW

W. P. Allman
C&NW

Paul H. Reistrup
IC

L. W. Maglione
PC

Donald M. Gibson
PC

(Continued from page 50)

ILLINOIS CENTRAL.—Paul H. Reistrup, vice president Intermodal Services, elected vice president, Traffic Department.

John H. Doeringer, commerce attorney, named general attorney.

NORFOLK & WESTERN.—William J. Watson, Jr., manager transportation, Atlantic and Pocahontas regions, Roanoke, appointed manager transportation–special duty with the merger study committee. **Roy N. Steele,** assistant to general manager transportation, Roanoke, succeeds Mr. Watson. **John A. Walker,** assistant to manager transportation, Western Region, St. Louis, succeeds Mr. Steele. **G. O. Hall,** chief clerk, transportation department, Western Region, succeeds Mr. Walker.

Dr. Robert W. Edmons, regional medical director, Lake and Western regions, Cleveland, named medical director, Roanoke, succeeding **Dr. John K. Humphries,** retired.

R. P. Collingwood, who has been on special assignment with the merger task force since last April, appointed director –station services.

Sam D. Broadhurst, industrial geologist, named manager technical services–system.

PENN CENTRAL.—The Interstate Commerce Commission ruled that **Alleghany Corp.** must sell its interest in Penn Central in order to complete its merger with **Jones Motor Co.,** a trucking concern. **Fred M. Kirby,** board chairman of Alleghany, resigned as a director of both Penn Central Co. and Penn Central Transportation Co. **Carlos J. Routh,** vice chairman of the board of Pittston Co., New York, and a director of Alleghany, resigned as a director of PC Transportation Co. **Daniel A. Taylor,** a director of PC Transportation Co. and Alleghany Corp., will continue on the PC board and resign his Alleghany directorate.

Leonard W. Maglione, manager of suburban service, appointed to the newly created post of director of passenger service, Metropolitan Region.

George A. Streett, division superintendent, Fort Wayne, Ind., transferred to the Valley Division, Youngstown, Ohio, succeeding **William L. Holler,** transferred to the Pittsburgh division, to replace **Robert A. Rutledge,** transferred to the Cleveland division. **Norman G. Anders,** assistant transportation superintendent, Pittsburgh Division, appointed transpor-

Study LOCOMOTIVE MECHANICAL EQUIPMENT MAINTENANCE in spare time at home

The man they respect in most shops is the one who's apt to know the answer when a problem arises. You know a man like that; wouldn't you get a lot of satisfaction and personal pride in being like him? Such knowledge sooner or later always adds to the pay check, and too, pays off in greater job satisfaction and personal pride. And who can put a dollar value on that?

You can be such a man by taking this two-year course for mechanical department employees who want to know more about locomotive mechanical equipment maintenance and repair. Two lessons a month, in simple, non-technical language, guide you swiftly to a better working knowledge of the subject. Your lessons are graded by instructors who give individual, personalized advice as needed. The cost is low and payable in monthly installments. For full information, return coupon.

RAILWAY EDUCATIONAL BUREAU RA 4/70
1809 Capitol Ave., Omaha, Neb. 68102
Send full information on locomotive mechanical equipment maintenance home study course.

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Railroad .....
Job title .....

FREIGHT-SAVER™ IS ONLY PART OF THE ACF STORY.

Over 16,000 of these pneumatic hydraulic cushioning units have been installed to date, providing reliable protection for all kinds of ladings. With few moving parts, and no awkward metal springs, these lightweight units for center-of-car or end-of-car applications are easy to maintain.

acf **ACF INDUSTRIES**

For another chapter, turn the page.

"Max, how fast can you guarantee a car reservation?"

Max, our computer, gets a little carried away sometimes. Just the same, he's a mechanical marvel. He's on duty 24 hours a day, keeping a constant inventory of all our cars. That's why only National can *guarantee* reservations.

Wherever you are, when you call National toll-free at 800-328-4567, we just ask Max if there'll be a car waiting for you.

Max knows, at the instant you call, what cars are available at every National location. When he says yes, he isn't guessing.

National features all new Chevys, Pontiacs, Buicks, Oldsmobiles, and Cadillacs, and other fine cars, at 2400 worldwide locations.* And in the U.S. you'll get a fist full of S&H Green Stamps, too. So please excuse Max's conceit. After all, Max knows he's the only computer that guarantees car reservations. And only National has Max. Let Max do it.

*Tilden-Rent-A-Car in Canada.

We make the customer No. 1.

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tation superintendent, Pittsburgh Division. Mr. Rutledge succeeds **Robert V. Brinkworth,** appointed director-locomotive utility, Philadelphia. **Robert A. Shaw,** superintendent, Springfield, Mass., succeeds Mr. Streett as superintendent, Ft. Wayne Division.

George J. Jacks, regional comptroller, Northeastern Region, Syracuse, N. Y., named regional comptroller, Northern Region, Detroit, succeeding **Frank Milano,** named regional comptroller, Metropolitan Region, New York.

Donald M. Gibson, inspector of police, Pennsylvania Station, New York, appointed superintendent of police, Metropolitan Region. Mr. Gibson will head the campaign against vandalism, using every modern means available to help insure the safety of passengers and to help protect PC property.

The PC has combined its Northeastern and New Haven operating regions into a single Northeastern Region, with headquarters at New Haven, Conn. **John M. McGuigen,** general manager, New Haven Region, will head the new Northeastern Region. **Frank S. King,** general manager at Syracuse, N.Y., appointed general manager, Philadelphia Commuter Area, effective May 1.

PITTSBURGH & LAKE ERIE.—Leland S. Fletcher, division freight sales manager Youngstown, Ohio, promoted to freight sales manager, Pittsburgh.

READING.—J. Stewart Warden, director of passenger services, Philadelphia, appointed to the newly created position of assistant vice president–passenger services and his former position has been discontinued.

RICHMOND, FREDERICKSBURG & POTOMAC.—Ralph Miller, assistant to director

RAILROAD DESIGN CONSTRUCTION ENGINEERS

Progressive, growth-oriented large Western Consulting firm has immediate openings for Graduate Civil Engineers with previous railroad experience who are seeking challenging opportunities with advancement possibilities to top level responsibility in design and construction.

Your resume with salary history and requirements should be directed in confidence to: F. J. Jackson, Personnel Manager.

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ACF's 5-psi car—the most economical pressure differential car on the rails—makes every siding a potential high-volume unloading site. It unloads anywhere, quickly and efficiently, right into over-the-road carriers. The fully enclosed system means better quality, minimum chance of contamination.

ACF INDUSTRIES

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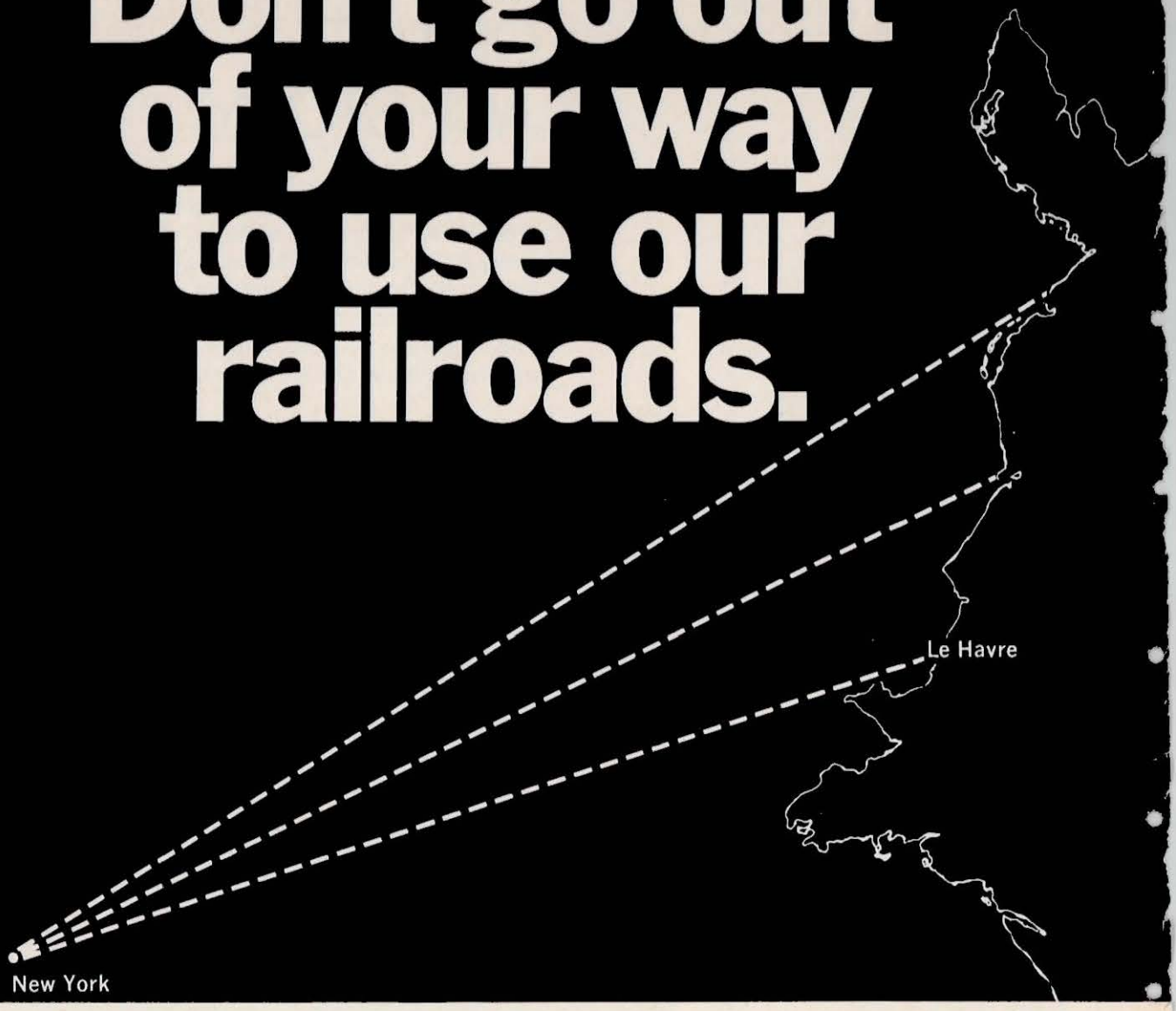
PROTECTING RAILROAD CARGO SINCE 1897

Being oldest is one thing. Being best is something else. Tyden is both – as more than 90% of North America's railroads testify by their exclusive use of the Tyden Seal. Should you be among the few who haven't gotten the word, please write today for free samples and details. We're not too old to move fast.

THE TYDEN SEAL COMPANY
Division of The Viking Corporation ☐ Hastings, Michigan 49058

Circle 23 on coupon page 77

Please. Don't go out of your way to use our railroads.



Why ship containerized freight to any other port in Europe when French National Railroads and its affiliated Company, "Compagnie Nouvelle des Cadres", specially created to handle containers, can deliver your goods from Le Havre to "les customers" faster.

Containerized freight consigned to Le Havre is on the railroads to your markets in Europe (at 70 miles an hour) while freight consigned to other major ports is still at sea.

The containerized freight handling facilities at Le Havre are now among the best in Europe. In fact they are so advanced that we can guarantee scheduled shipment of your freight to the consignee anywhere in Europe.

The freight trains are waiting at the dock. Equipped to handle any size containers. And your shipment goes direct from the boat to the train. With no lost dock time.

From Le Havre, the French National Railroad's track network fans out to Europe. Within hours your goods are in Paris—Lyons—Geneva—Munich—Zurich. Anywhere in Europe where there's railroad track. And our freight trains are prompt, punctual and dependable. This means efficient and economical service to you and your customers.

So don't go out of your way to use our railroads and get your goods to market faster.

For further information write to the French National Railroads 610 5th Ave., N. Y. New York Freight Department D. Or call French National Railroad at 582-2110.

FRENCH NATIONAL RAILROADS

Circle 25 on coupon page 77

J. Stewart Warden
Reading

James R. Scott
Santa Fe

Pier Clifford
Southern

C. J. Allen, Jr.
Wyandotte Terminal

of personnel, promoted to assistant director of personnel.

SANTA FE.—Rodney S. Cantwell, superintendent of work equipment, Albuquerque, N.M., named assistant to general manager, mechanical department, Chicago.

James R. Scott, assistant vice president-real estate and industrial development, named vice president-real estate and industrial development, Chicago, to succeed **George W. Cox,** retired (RA, March 9, p. 56).

Russell L. Pinnau, district agent, Memphis, Tenn., advanced to district sales manager, Cincinnati, to succeed **Paul L. Neiswanger,** who retired recently after more than 49 years of service.

SOUTHERN.—Pier Clifford appointed advertising manager, Washington, D.C. Mr. Clifford was formerly assistant advertising manager, **Chesapeake & Ohio—Baltimore & Ohio,** Cleveland.

Kenneth B. Davis special supervisor—fire prevention, Birmingham, Ala., appointed supervisor of fire prevention, Greenville, S.C.

TERMINAL RAILROAD ASSN. OF ST. LOUIS.—W. J. Compton named general superintendent.

WESTERN MARYLAND.—M. D. Kefauver, manager of stores, Baltimore, retires April 30, after over 46 years of service.

WYANDOTTE TERMINAL.—Clinton J. Allen, Jr., assistant to the president, elected president of this subsidiary of Wyandotte Chemicals Corp. at Wyandotte, Mich. He succeeds **J. A. Lucier,** retired.

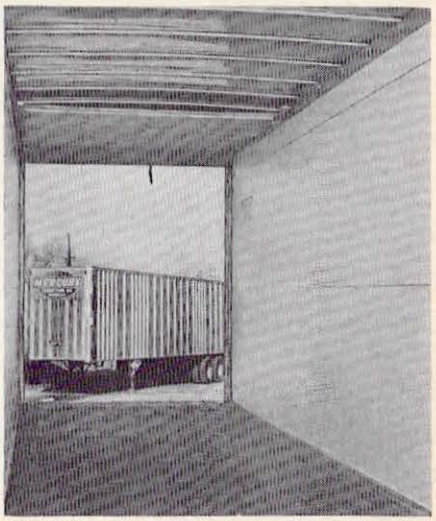
CENTER-FLOW™ IS ONLY PART OF THE ACF STORY.

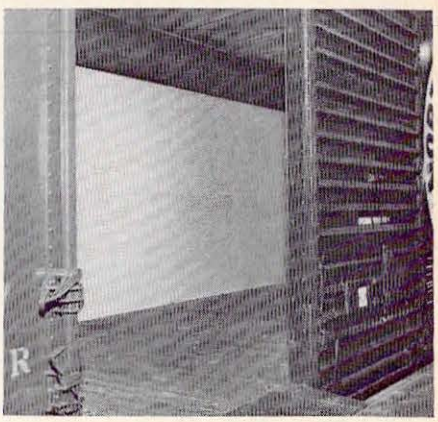
The story here is versatility. Center-Flow sizes and a loading-unloading system to match any lading. No wonder it started the revolution in bulk handling.

ACF INDUSTRIES

For another chapter, turn the page.

GLASBORD® Liner SERVES TWO MASTERS





1. SHIPPERS !

Protects YOUR cargo

2. OWNERS !

Keeps YOUR units in service

High strength, light weight GLASBORD panels are the best liner for reefer trailers, containers, and freight cars. ACCEPTED BY U.S.D.A.

WRITE FOR BULLETIN 67B

kemlite

KEMLITE CORPORATION
Dept. RA
P.O. Box 429 • Joliet, Illinois 60434

Circle 26 on coupon page 77

A. M. Jarzombek
Vapor

J. A. Machesney
Vapor

L. Dow Davis
Wyandotte Chem.

Joseph J. Potocny
Alco Spring

D. Cameron Lacy
Brenco

M. Lee Peterseim
Alcoa

SUPPLY TRADE

The sales department of the **Transportation Systems Division, Vapor Corp.,** has been divided into three market groups, which are railroad, mass transportation and industrial. **A. M. Jarzombek** named market manager-railroad, and **James A. Machesney,** market manager-mass transportation.

L. Dow Davis has been promoted to field sales manager, Railroad District, **Wyandotte Chemicals Corp.** He was formerly a special representative for Wyandotte's railroad products, serving major railroads from the east coast to St. Louis.

Joseph J. Potocny has been named manager of manufacturing, **Alco Spring Industries, Inc.,** Chicago Heights, Ill.

D. Cameron Lacy has been appointed district sales manager Railroad Division **Brenco Incorporated,** Philadelphia, Pa. Mr. Lacy was formerly a representative for **ABEX Corp.** in Richmond, Va.

M. Lee Peterseim has been named manager of railroad and marine sales, **Aluminum Co. of America,** Pittsburgh, Pa., succeeding **Rodney E. Wilson,** appointed manager of commercial automotive sales. Mr. Peterseim was formerly manager of Alcoa's South Bend, Ind., sales office.

Leonard J. Gratz has been named vice president-finance, **Superior Steel Castings Co.,** a subsidiary of **Mangood Corp.**

Mrs. Elsie E. Carroll, director, Railroad Services Division, **Intermodal Transportation Systems, Inc.,** has been promoted to assistant vice president, Railroad Services, with headquarters as before at Atlanta, Ga.

Allen Anderson has been appointed regional manager, Railroad Services, **Intermodal Transportation Systems, Inc.** Mr. Anderson will be in charge of the Chicago office, reporting to divisional headquarters in Atlanta, and be responsible for service and sales to railroads in the Midwest. Mr. Anderson was formerly sales manager and vice president, J. F. Martin Cartage Co.

Donald P. Miller has been appointed sales engineer—rail products, Chicago district, **L. B. Foster Co.** He was previously midwest director of marketing, American Pulley Co. and midwest sales manager, St. Lawrence Steel Co., Chicago.

(Continued on page 74)

CONDITIONAIRE™ IS ONLY PART OF THE ACF STORY.

This car wrote a new chapter in the history of produce shipping. The Conditionaire can keep up to 183,000 pounds of perishables at a precise temperature, winter or summer. No crating, less spoilage, more payload. Quite a story.

acf **ACF INDUSTRIES**

For another chapter, turn the page.

FOR SALE

NEW PIGGYBACK TRAILERS CONTAINERS, PLATFORM TRAILERS IMMEDIATE AVAILABILITY

New 40' aluminum piggyback vans. 2,426 cu. ft. cargo capacity. Steel reinforced front wall. Full grade ¾" plywood liners. Full length 1⅛" laminated hardwood flooring on steel I beam cross members on 12" centers. Full width ¼" HTS plates over 5th wheel. Extra strong heavy duty landing gear. Two tandem axles, 8 wheels. Double anti-track locks. Electrical and air systems conform to ATA and DOT requirements. 45 units, subject to prior sale. $5,300 each FOB Brady, Texas.

Also, new 20' x 8' x 8' aluminum steel containers built to ISO specifications, 50 units with fork lift pockets, 50 units without. New 40' platform type trailers, with or without container locking mechanisms. Augusta, Kansas.

Contact:

Allied Products Corporation
5401 West Roosevelt Road
Chicago, Illinois 60650 AC 312 656-9300
Att: M. H. Gordon or H. J. Johnson

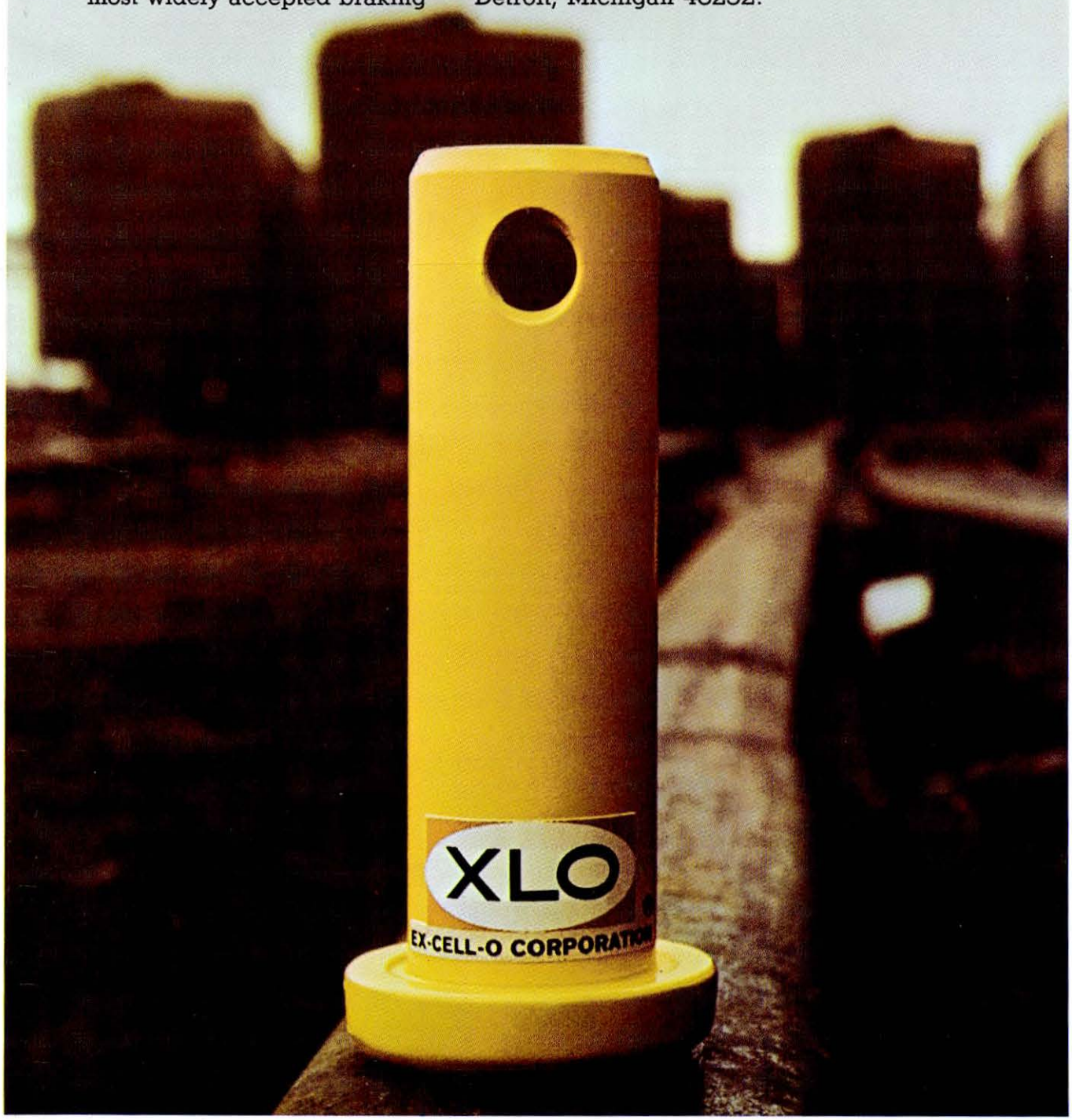
Ask WABCO about Ex-Cell-O's track record.

Westinghouse Air Brake Division demands a lot of itself. And consequently delivers a lot to its customers. Brakes that stop today's high-speed, high-mileage freight cars faster and more economically.

As a result, the WABCOPAC brake assembly is one of the most widely accepted braking systems in the industry.

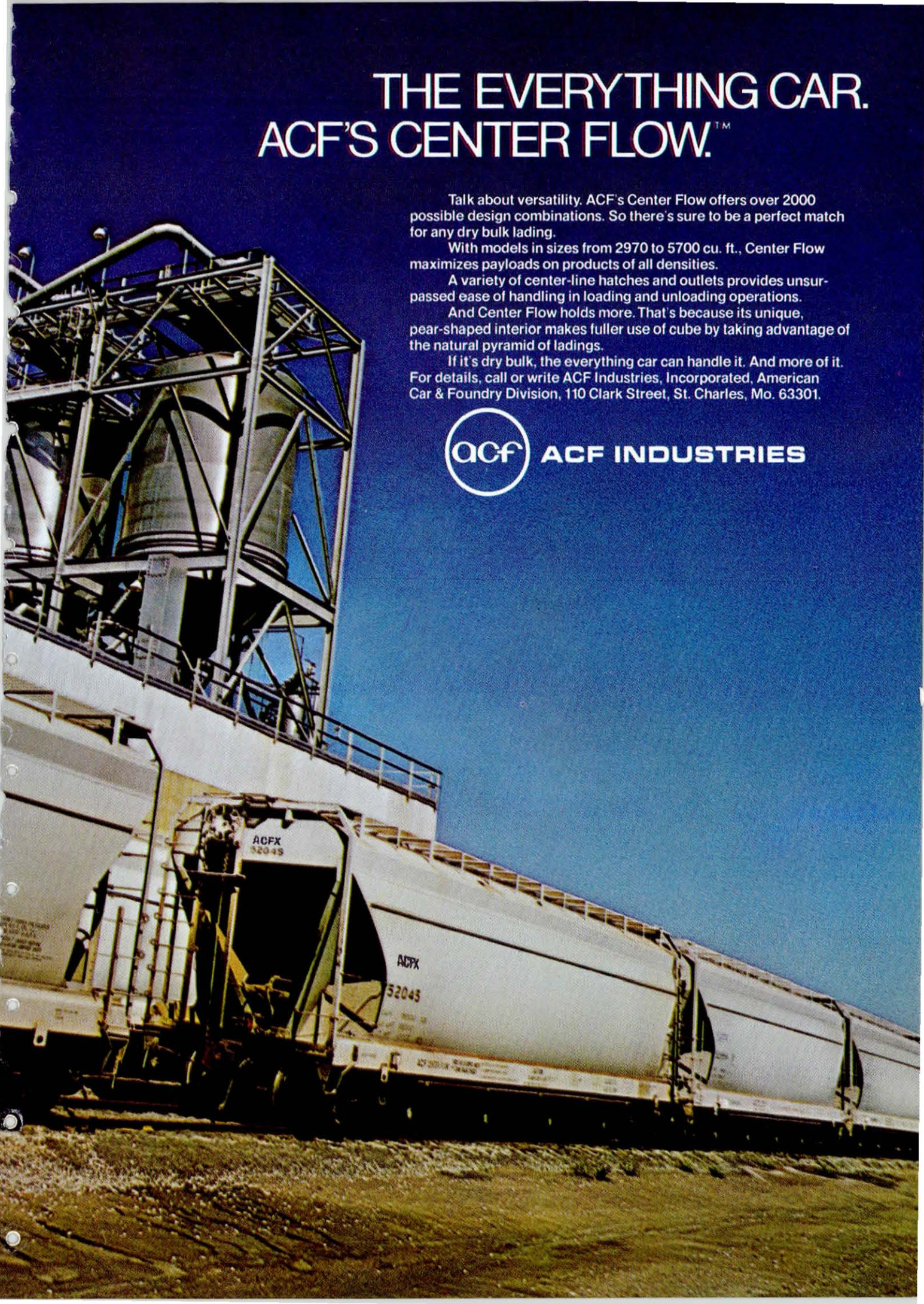
One of the ways WABCO stays on top is with Ex-Cell-O F Series Pins—the toughest you can buy. Pins that roll hundreds of thousands of proven maintenance-free miles.

Like to hear more? Write Railway Products, Ex-Cell-O Corporation, Box 386, Detroit, Michigan 48232.



CAUTION

THE EVERYTHING CAR.
ACF'S CENTER FLOW.™



Talk about versatility. ACF's Center Flow offers over 2000 possible design combinations. So there's sure to be a perfect match for any dry bulk lading.

With models in sizes from 2970 to 5700 cu. ft., Center Flow maximizes payloads on products of all densities.

A variety of center-line hatches and outlets provides unsurpassed ease of handling in loading and unloading operations.

And Center Flow holds more. That's because its unique, pear-shaped interior makes fuller use of cube by taking advantage of the natural pyramid of ladings.

If it's dry bulk, the everything car can handle it. And more of it. For details, call or write ACF Industries, Incorporated, American Car & Foundry Division, 110 Clark Street, St. Charles, Mo. 63301.

acf ACF INDUSTRIES

The incredible automated train...

and how U.S. Steel helps railroads get more for their money.

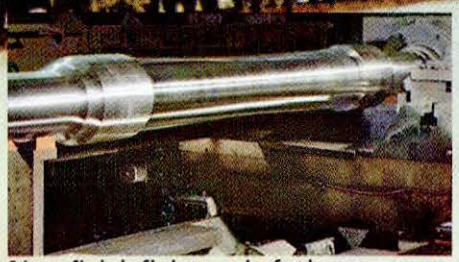
You've read about it. The new 15-mile Muskingum Electric Railroad in southeastern Ohio. Built by Ohio Power Co., subsidiary of American Electric Power. With twin automated trains that can haul 18,000 tons of coal a day.

But did you know we helped make it practical and economical?

The design of MERR's 100-ton, air-dump hopper cars employs the "Family of Steels" concept of United States Steel.

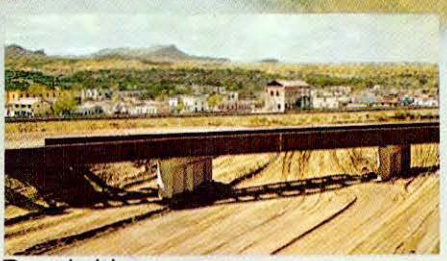
USS COR-TEN High-Strength, Low-Alloy Steel was used for everything the lading touches, including the automatic, air-operated drop doors. Not only is it 40 per cent stronger than carbon steel, but its atmospheric corrosion-resistance is five to eight times as good, and it gives up to twice the paint life! It forms a tight oxide coating on the unpainted surfaces inside these cars, and over scratches and breaks in the painted surfaces outside, "healing" itself and cutting maintenance costs. Other highly stressed members, where resistance to atmospheric corrosion is not so great a factor, are of USS TRI-TEN Steel—strong and economical, to reduce weight and material costs.

We're supplying steel—and good advice—on a lot of other important projects, too: cars, rails, bridges, buildings. If you'd like to talk, phone your USS man or write United States Steel, Box 86 (USS-7072), Pittsburgh, Pa. 15230.



New finish fights axle fatigue.

Build 'em bigger, move 'em faster—that's the trend in freight cars. But higher weight and higher speeds increase susceptibility to axle fatigue. So our engineers went to work to learn which finish helps axle bodies resist fatigue best. Their answer: a surface finish of 100 micro-inches, average. And that's exactly the finish you'll get from us from now on. (We'll send you the technical report on request.)



Bare bridge covers up.

This bridge over the Rio Grande has been covering itself up since the day it was born. With the help of weather, not paint. That's because it's of bare USS COR-TEN B High-Strength, Low-Alloy Steel. The older it gets, the better it looks. As the dense, russet-colored coating forms, it retards further corrosion; even "heals" itself if scratched. All at no cost to the owners, the Atchison, Topeka and Santa Fe.

Airport Rapid of steel.

Cleveland Transit System has 20 of these all-steel cars in service on the country's first airport-to-center-city run. The extension has drawn so many new riders, service has doubled and CTS has ordered another ten. The fast, maintenance-free cars are of USS Stainless Steels and USS COR-TEN A High-Strength, Low-Alloy Steel, which fortifies the end frame against a 200,000-lb. impact load.

USS, COR-TEN and TRI-TEN are registered trademarks.

You're on the right track with USS Steels for Railroads

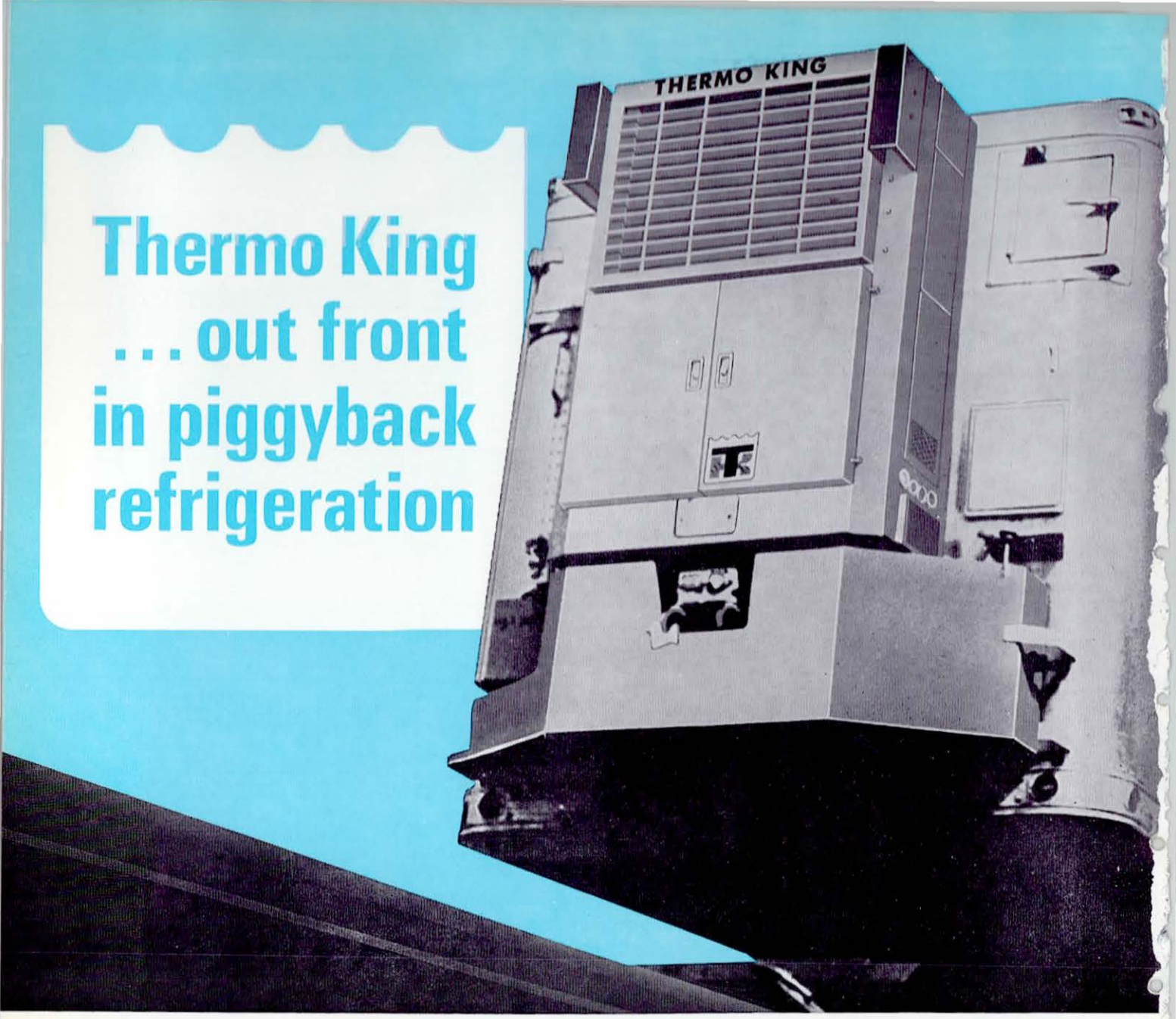
Putting a refrigerator on wheels was a great idea. Getting rid of the refrigerator is a new idea.

For the last few years, two very ordinary looking rail cars have been tested between Omaha and Boston, Kansas City and Charlotte, and St. Paul and Pittsburgh. But their purpose was extraordinary. They tested the shipping of beef and produce, refrigerated by

liquid nitrogen at a constant temperature. This, in itself, was not unusual. What is unusual is that they provided atmosphere control—the right oxygen content to keep beef and produce fresh—simply by setting a valve. Pullman-Standard liquid nitrogen test cars do this. And they do it without diesel engine or mechanical operation. If you need a new idea instead of an old freight car, call us.

Pullman-Standard
WORLD'S LARGEST RAIL CAR MAKER
200 South Michigan Avenue, Chicago, Illinois 60604
A Division of **Pullman Incorporated**

Thermo King ... out front in piggyback refrigeration

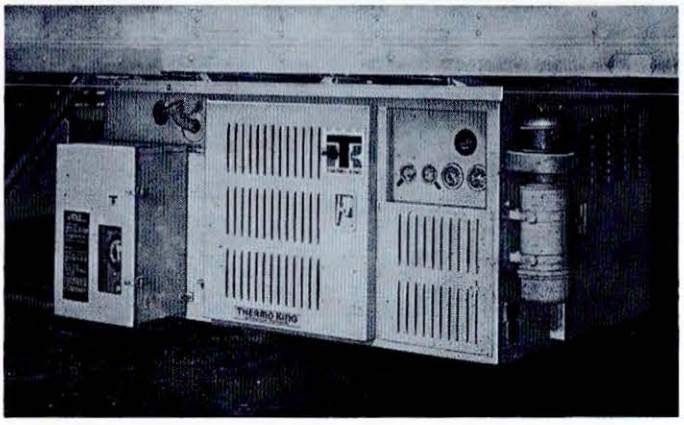


Professional piggybackers rely on special Thermo King frontmount or undermount units for perishable protection

Specially built to the rugged requirements of piggyback operations, these Thermo King refrigeration units keep perishable cargoes at constant temperatures, no matter how long the run or variable the ambients.

In these diesel-powered units, Thermo King has answered the industry need for absolute reliability with extra capacity components, engineering that provides an extra margin of safety, and maintenance features that save downtime and labor.

For information on why Thermo King units mean lowest cost per mile in refrigerated piggyback operations, write Thermo King Corp., Railroad Division, 314 W. 90th St., Minneapolis, Minn. 55420.



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Expect more from L&N! You get more, with our exclusive Total Distribution Unlimited Program for shippers. Knowledge and ideas team up with sophisticated computer hardware to cut your marketing costs and improve profits. Call today! You will find out . . . **We're Flexible!**

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FI-81

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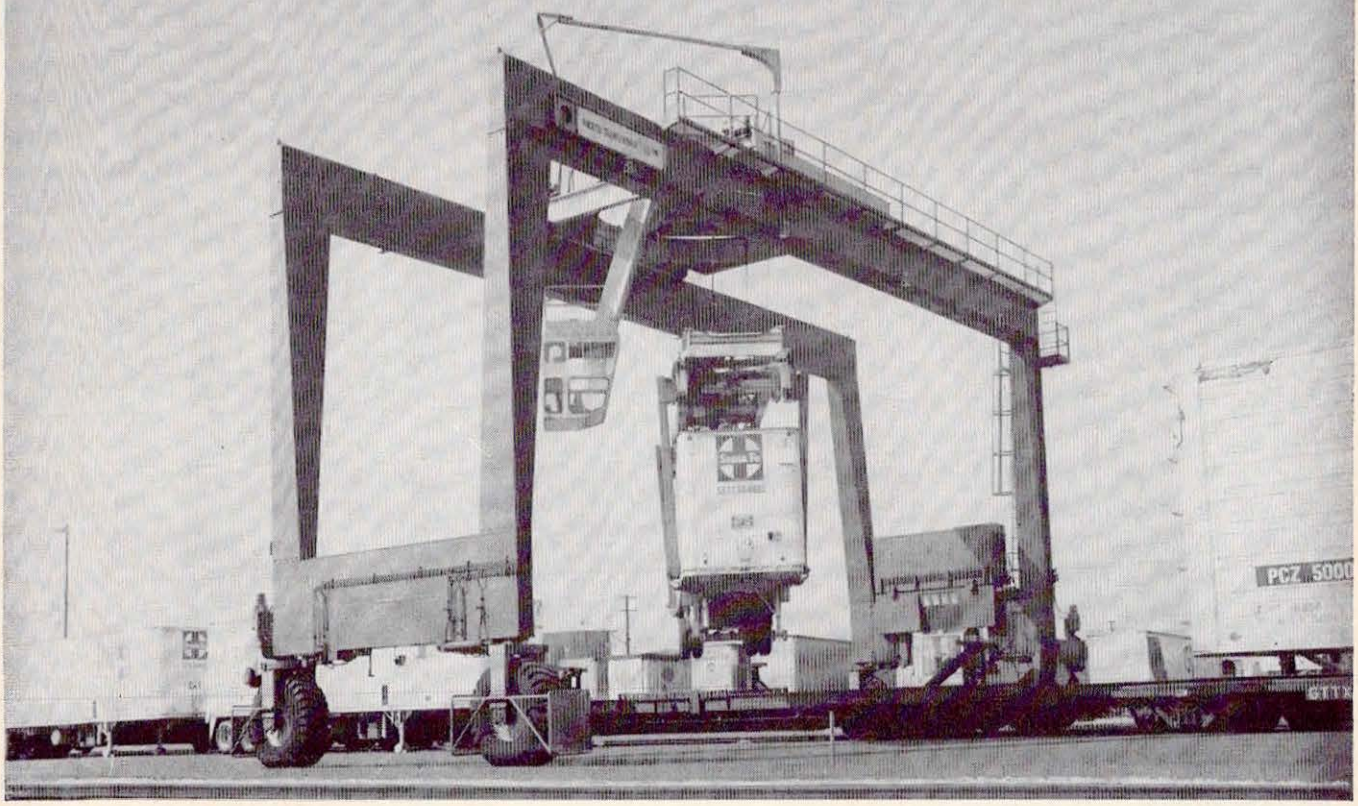
Louisville and Nashville Railroad

Now speeding piggyback and container handling at the Penn Central Railroad Yard in Chicago, two new 40 ton PACECO TRANSTAINERS® have 360° rotating trolley and seventy-four foot span capable of straddling two roadways and two railroad tracks.



New Features for Maximum Performance

No other mobile straddle crane can match the versatile performance of the new TRANSTAINERS®

Rotates Piggybacks or Containers End-For-End
Loads on/off in any direction to minimize flatcar switching and provide fast hookup to trucks. Trolley rotates total of 360°.

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Exclusive cab-on-trolley saves time and manpower. Operator rides with load at all times for faster duty cycles.

Handles 20′ Thru 40′ Containers or Piggybacks
Expandable lifting spreader handles top or bottom lifts for piggybacks or containers in any lengths from 20′ thru 40′.

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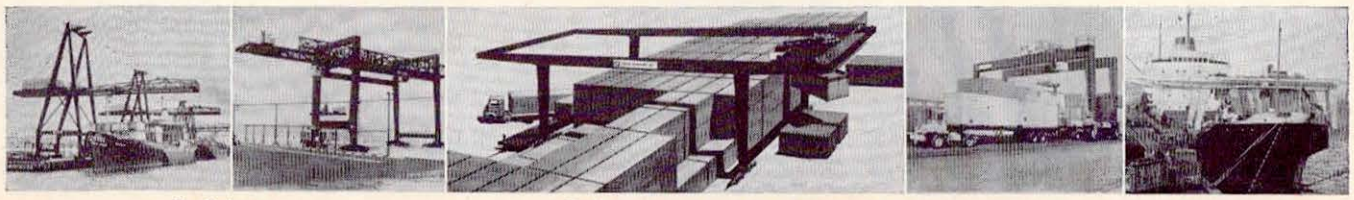


Portainers **Rail-mounted and Rubber-tired Transtainers** **Shipstainers**

Circle 31 on coupon page 77

(Continued from page 62)

L. B. Foster has opened a warehouse and distribution center at Birmingham to serve the railroad, utilities and construction markets in Alabama and the Florida Panhandle.

William B. Power, manager of new market development, **Reynolds Metals Co.,** Richmond, Va. has been named manager of railroad, rapid transit and military vehicle markets.

Lee H. Shils has been appointed vice president—product engineering, **Berwick Forge & Fabricating Corp.,** Berwick, Pa. Mr. Shils served as chairman, Carbuilders Engineering Committee, which co-authored with the Association of American Railroads special task force the "AAR Specification for Design Fabrication, and Construction of Freight Cars" which was adopted throughout the railway industry in 1964.

INDUSTRIAL TRAFFIC

H. N. Logsdon, director of transportation markets, mill products division, **Reynolds Metals Co.,** Richmond, Va., has been elected chairman, Transportation committee, **Aluminum Assn.,** New York, succeeding **M. C. Crockett, Kaiser Aluminum & Chemical Corp.,** Oakland, Calif..

C. Duane Carley, former director of market development, **Northern Pacific,** St. Paul, Minn., has joined **Hooker Chemical Corp.,** Tacoma, Wash., as manager of transportation pricing in the corporate Transportation & Distribution Department.

E. J. Landis has been appointed director of transportation and distribution, **Duval Sales Corp.,** Houston, Tex. Mr. Landis was formerly a traffic consultant with a major mining and chemical corporation.

George F. Desmarais, distribution manager, Sisalkraft Division, **St. Regis Paper Co.,** Attleboro, Mass., has been named distribution manager, Laminated & Coated Products Division.

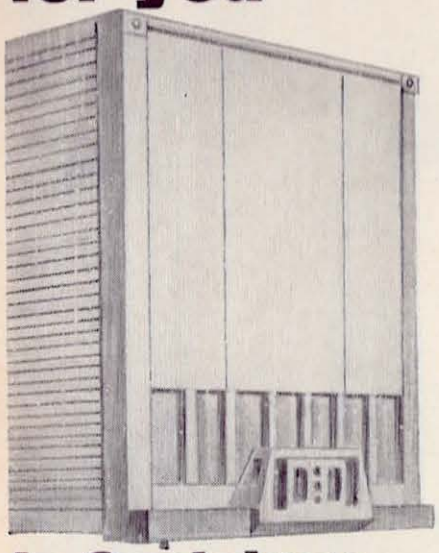
D. L. Campbell Kerr, general traffic manager, **Freeport Sulphur Co.,** has been elected chairman, Transportation and Distribution Committee, **Manufacturing Chemists Assn.,** succeeding **G. L. Wilson, Rohm & Haas Co. Gordon R. Anderson,** general traffic manager, **Dow Chemical Co.,** was elected vice chairman of the Committee, replacing Mr. Kerr.

OBITUARY

Ray F. Clark, 88, retired general freight agent, **Canadian National—Grand Trunk Western,** died April 15, in West Suburban Hospital, Oak Park, Ill.

Victor E. Vaughn, 77, retired assistant to the president, **Chicago Great Western,** died March 27 in Oelwein, Iowa.

Important Cost Advantages for you



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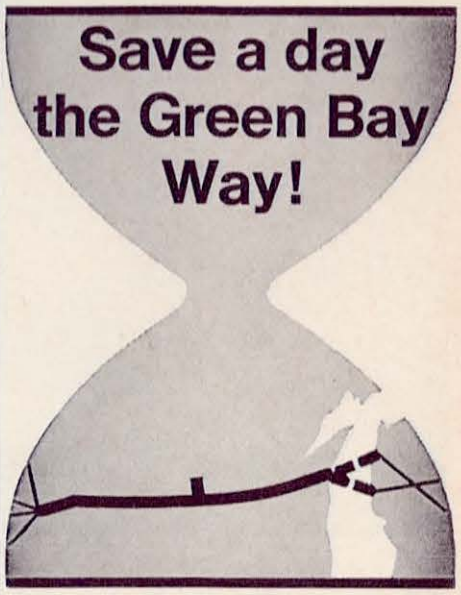
"Your investment goes farther with Intermodal"

Circle 32 on coupon page 77

Save a day the Green Bay Way!



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Circle 34 on coupon page 77

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CARRY MORE - WEIGH LESS!

MAINTENANCE OF WAY . . . ideal for ditching, rip-rapping, widening banks, and power shovel work.

REVENUE SERVICE . . . fast economical bulk handling for unit train or fast turn-around applications.

8-second dumping — all-welded construction — sizes to 70 cu. yds.

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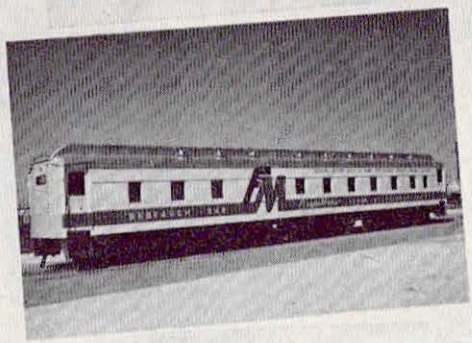
Circle 33 on coupon page 77

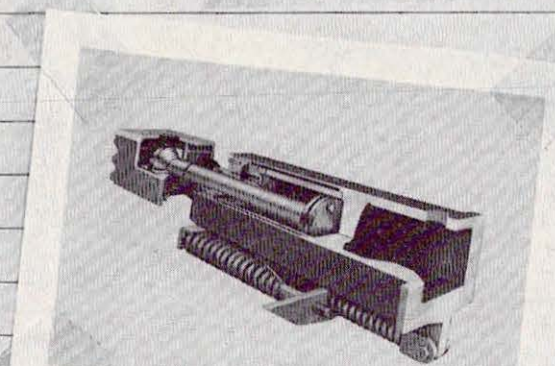
Our homework pays off...up and down the line!

A

Research — just another name for old fashioned homework — led FreightMaster to originate the end-of-car hydraulic cushioning concept over twelve years ago. Put us on the right track, you might say.



Now, there are more and more cars on the right track — all FreightMaster equipped. In fact, over 50,000 cars have switched from the rough and tumble of uncushioned freight transport to the safer, smoother ride that FreightMaster provides.



Purposeful, determined research programs and equipment, like our exclusive laboratory-on-wheels, have kept us moving in the right direction. They've helped us create the industry's widest selection of hydraulic cushioning devices so that you're almost certain of finding a FreightMaster unit that matches your cushioning requirements.

Every FreightMaster unit built today comes with a lot of homework behind it. Homework that's tempered and improved by our over a decade of experience with end-of-car cushioning equipment. With our twelve year head start, johnny-come-lately cushioning devices just can't begin to match up to FreightMaster's experience and proven performance. Profit from our experience. Install FreightMaster cushioning equipment. And earn yourself a straight A report card.

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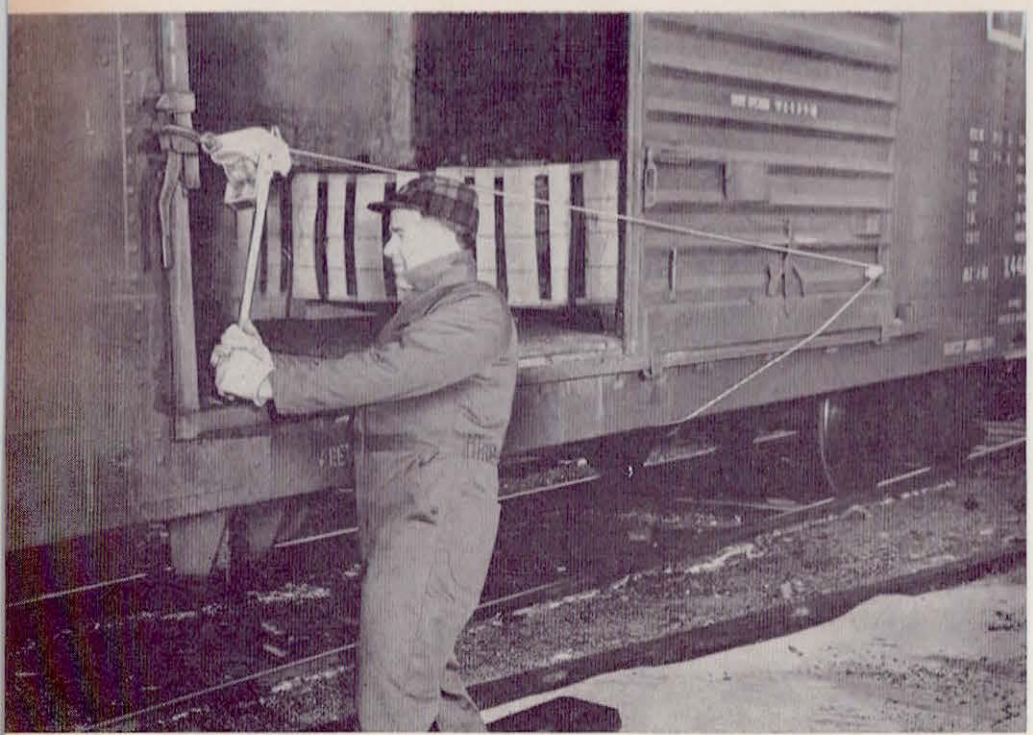
MEMBER RPI

FreightMaster is 12 years ahead.

Circle 35 on coupon page 77

New Products Report

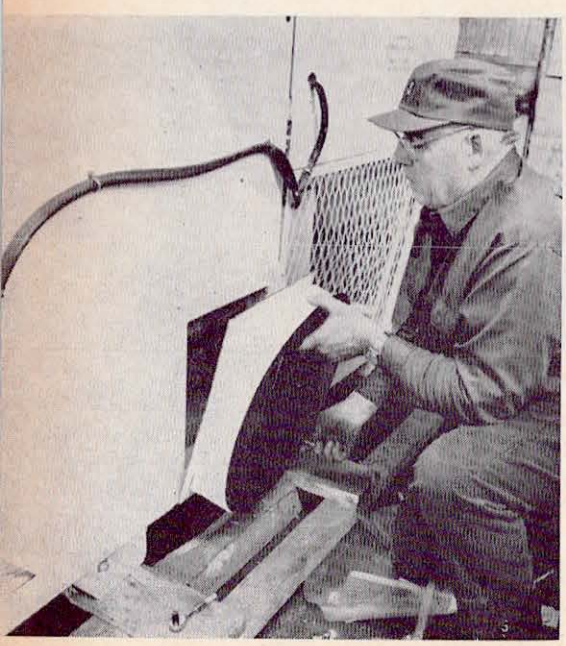


Car-door pullers (RA-1)

With the Lug-All car-door pullers, one man can quickly and safely open the toughest box-car doors, according to the manufacturer. Model HDR-30, weighing only 15¾ lb and having a pulling distance of 30 ft, will open a 50-ft box-car door from end of car. Model HDR-12, weighing only 11 lb, has a pulling distance of 10 ft.

Both models rig double cable for extra power, or single cable for extra length, and have a capacity of 3,000 lb. They are of basic construction like Lug-All winch hoists, but have oversize hooks that secure on side sills and door tracks.

An eyebolt and clevis slip hook arrangement allows right angle anchoring without undue stress on hook or frame. *Lug-All Co.*



Flexible ducting (RA-3)

The ducts used for directing the flow of cooling air through the ACF Center Flow Conditionaire perishables car are flexible, rugged and foam insulated. Each of the two ducts is rectangular with metal flanges having special hangers and clamping areas.

The duct's inner ply is nylon fabric impregnated with neoprene rubber and has three support rings sewn into it. Over this is a ¾-in. layer of ¾-lb polyurethane foam insulation. The outer ply is also neoprene-impregnated nylon and is coated with a white synthetic rubber. Flexibility allows for misalignments in installation of the cuts through the body of the covered hopper.

Both ducts are 15⅜ in high, a dimension that allows for variations in car construction. The ducting is built to specific requirements. *Thermoid Division, H.K. Porter Co.*

Hopper-car vibrator (RA-2

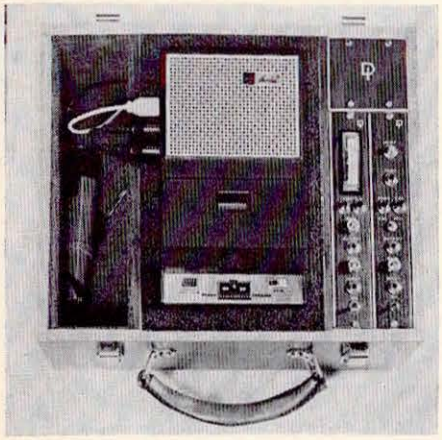
The HCP-4″ is a portable heavy-duty, long-stroke air vibrator for unloading covered hopper cars. It weighs 115 lb and operates on a recommended 40-60 psi. Its male mounting head offers a "Free Ride" mounting design in the standard car vibrator bracket without "wedging." *National Air Vibrator Co.*

Heat-shrink tunnel (RA-4)

The Mudie heat-shrink tunnel for shrinking wrapping of pallet loads in tough, abrasion-resistant polyethylene film is capable of handling 30 pallets an hour with most polyethylene films and up to 60 pallets an hour with certain film thicknesses and colors.

Tunnels may be had to accommodate loads 36, 54, 72 and 90 in. high and 48 in. wide, although, according to the manufacturer, even the smallest load can be accommodated. Load length is unlimited

Warm-up of radiant heaters takes only 15 min. Heat is applied directly to the pallet load, not to the surrounding air. No ventilation system is required; tunnel can be operated with doors open. A sealer for making bags from center-folded or tubular film is available as auxiliary equipment. *David J. Mudie & Co.*

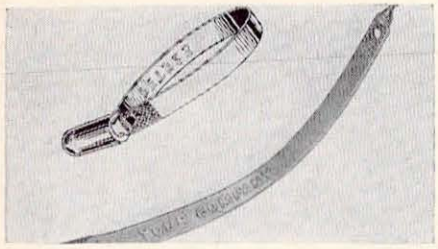


Cassette recorder (RA-5)

A new single-channel, dc to 1000 Hertz instrumentation recorder utilizes convenient cassette tapes. The 11-lb, battery-powered instrument, designed for true portability and maximum utility, contains FM record/reproduce electronics and has pushbutton calibration. It has provisions for visual, audible or external monitoring of record/reproduce mode data signals. The operator may insert voice comments as desired.

Called the Model 7001 Instrumentation Recorder, the unit is priced at $595.

The applications include recording and analysis of data associated with shock, vibration, noise, pollution, training, telemetry, plant maintenance, transient monitoring, or any other application requiring complete portability, or remote, intermittent or unattended recording of signals up to 1000 Hertz. Delivery takes eight to ten weeks. *Dallas Instruments.*



Car Seal (RA-7)

The Poly-Lok, a tamperproof seal of all plastic construction for freight-car doors, truck doors, tank cars, and other places where a security seal is needed, is of single unit design. To apply, it is bent around and the spearpoint inserted into the locking sheath. No sealing tool is required. If force is used to open the seal, the spearpoint will break to indicate tampering. The seal, available in many different colors for color-coding, can be stamped with any needed information. Stamping shows up white against colored background, providing instant legibility. *E. J. Brooks Co.*

Disposable linens (RA-6)

Sanitary, disposable, one-use sheets and pillow cases, produced from a non-woven cellulosic material, are offered for transportation sleeping facilities and for pillows distributed to passengers. These Kimlon products resist tearing, snagging and ripping and are gentle to the most sensitive skin. The sheets and pillow cases offer a substantial saving in storage space over linens and come packaged in plastic bags—including a Combo pack of two sheets and one pillow case. The need to maintain large inventories of linens is reduced and losses due to stains, damage or stealing are eliminated, along with problems of linen handling and distribution. The sheets, 60 x 95 in., are designed for the single bed or cot. Pillow cases are 20 x 32 in. *Kimberly-Clark Corp.*

NEW LITERATURE

TRANSIT AIR BRAKES. General Electric Co.'s Transit Systems Department standard line of air brake equipment for transit and commuter car applications is fully described in an illustrated 10-page brochure. It includes information on both rapid transit and railroad commuter air brake systems which utilize either digital or analog control. (NL-1)

CONTAINERIZATION. An up-dated U.S. Steel Corp. study discusses containerization by two or more transport modes. Written by the company's commercial research division, the 36-page study details the types of containerization, its past and projected growth, and its potential for expansion of related transportation industries. (NL-2)

HOSE, PUMPS, FITTINGS. A new two-color, Parker Hannifin Corp. 32-page illustrated catalog describes a complete line of pneumatic and hydraulic components for the railroad industry. (NL-3)

HANDLING SYNTHETIC LATEX. Step-by-step directions for properly shipping, storing and handling synthetic latex are described in a Goodyear Tire & Rubber Co. Chemical Division booklet. (NL-4)

PALLET SPEED CONTROL. A new technical report from Kornylak Corp. describes tests of Hysteresis Palletflo as a method of controlling pallet speed. The system permits pallet loads to travel by gravity for any distance at a uniform, safe speed and come to a gentle, safe stop regardless of weight of load. (NL-5)

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COMPANY .....

ADDRESS .....

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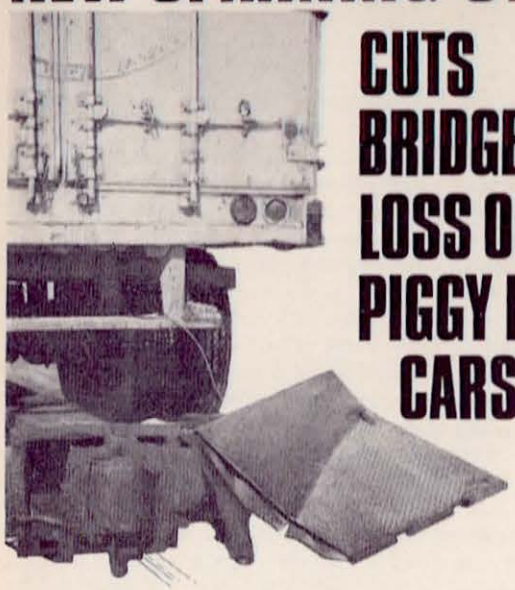
NEW SPANNING SYSTEM CUTS BRIDGEPLATE LOSS ON PIGGY BACK CARS



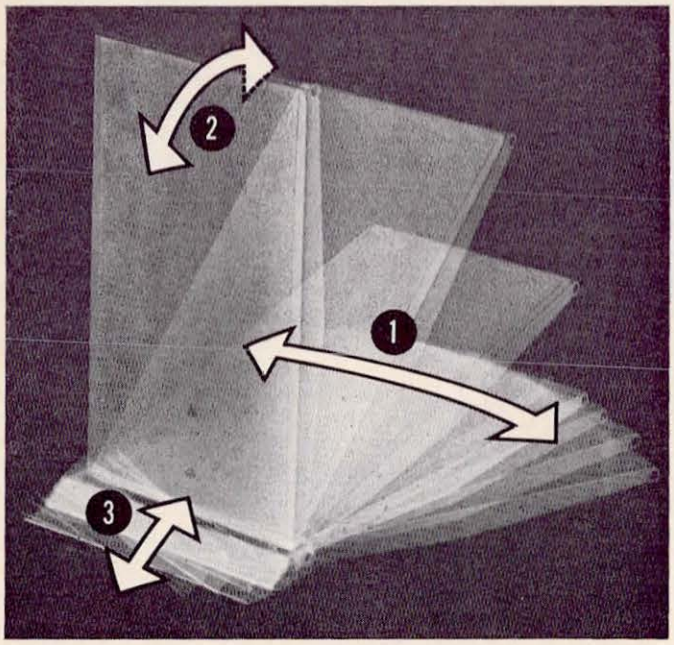
Dramatically reduces car delays and *derailments* caused by bridgeplate loss or damage.

40 to 60 lbs. lighter than conventional bridgeplate . . . much easier to raise and lower.

Unique flexing hinge arrangement provides controlled movement in three directions.

- Flexible hinge permits both rotation (No. 1) and longitudinal movement (No. 2) should the unit be inadvertently left in the horizontal position during movement of the train.
- Same flexible hinge permits forward and backward movement (No. 3) in vertical in-transit position . . . eliminates need for present spring-loaded pedestal securing device under the car.

Easy to install on new and existing equipment. Specify now for new cars to be ordered or leased. Call (312) 321-3766, or write 101 S. Wacker Drive, Chicago, Illinois 60606, Dept. RA-04



TRANSPORTATION PRODUCTS DIVISION
UNITED STATES GYPSUM

Circle 36 on coupon page 77

RAILWAY BOOKSHELF

FIELD MANUAL OF THE AAR INTERCHANGE RULES—1970. Big and blue, and packed with 376 pages of relatively easy to follow, easy to interpret—and in most cases, very well illustrated—rules and instructional material, the long-awaited 1970 edition of the AAR Interchange Rules is coming off the presses. Distribution of the rule book, one of the most important documents circulated in the rail transportation industry, is "under way now, and orders are being taken," reports W. H. Chidley, executive vice chairman of the AAR Mechanical Division.

In the making for close to two years, the new edition bears little resemblance to its predecessors. All the well-known rules of earlier editions have been revised or rewritten, and the entire format has been restructured. Some old and outdated rules have been eliminated altogether, and virtually all rule numbers have been changed.

Since the new Rules are to appear in two volumes—(1) the rules themselves, and (2) a separate listing of all pricing information—even the name has changed. The blue book containing the rules is called Field Manual, the one with the pricing information is entitled Office Manual.

A special five-man task force established by the AAR Mechanical Division worked full-time over the past two years preparing the new book. While sweeping changes have been made throughout, the object of the rules still remains the same as always: to serve as a guide regarding the care and repair of, responsibility for, disposition of, and interchange of freight and passenger cars.

For the estimated 55,000 persons who must use the rule book in performing their day-to-day jobs, the over-all changes made should be greeted with open arms. In the new format, for instance, the applicable rule for any repair to be made is easier to find. Many rules are categorized according to the part involved.

To simplify things further, each of the 130 rules in the new edition has six divisions: (1) Wear limits, gauging, cause for renewal; (2) correct repairs; (3) recondition requirements; (4) welding requirements; (5) general information, and (6) billing repair card requirements.

The correct repair category under each rule should be extremely helpful for repairmen out in the field. Costly wrong repairs will not be made if instructions are followed.

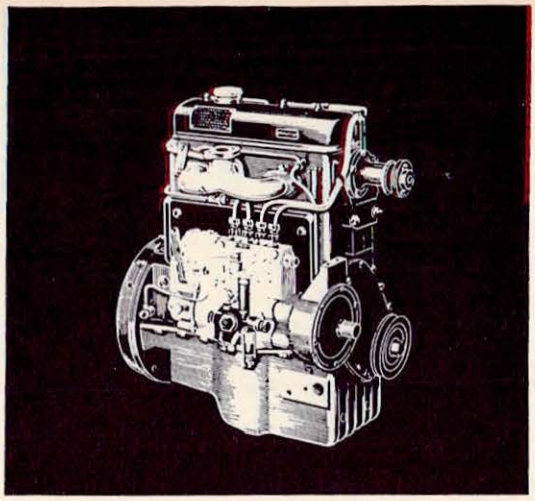
If there's anything about the new blue-covered manual which could be received unfavorably, it might be its size. It is somewhat larger than the existing 4½-by-6¾-inch pink 1969 rule book. Like the AAR's Wheel & Axle Manual, the new rules book measures 5 by 7½ inches, a little too big to fit comfortably in the hip pocket.

Costs of the so-called pocket-size field manual, as well as those for a larger 8-½-by-11-inch office version and for the office manual with the pricing information, vary with the quantities ordered. The regular field manual costs $1.75 when purchased in quantities of 100 or more. Purchased singly, the cost is $3. The field manual in the larger size costs $4 when purchased in quantities of 100 or more; single copy price is $5. The latter rates also apply to the office manual.

Although the new edition of the Interchange Rules is being distributed now, it does not go into effect until Aug. 1. A revised edition of the pink 1969 book will continue to be the official document until Aug. 1.

To familiarize industry personnel across the country with the upcoming new rule book, special task forces were assigned by the AAR to conduct forums in key cities to explain details and answer questions regarding it. These forums were "very well attended, averaging about 200 per session," Chidley says. **—Robert D. Bartley**

Users, Buyers, Engineers, OEM's, Sales Managers:



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Many "636's" have logged 20,000 hours without an overhaul!

Some have kept on going even past *25,000 hours*—1,000,000 miles! This is why 85 per cent of the controlled temperature equipment market uses the OM 636 as a prime mover. Read below some of the reasons for its incredible reliability.

1. *The pistons are made of forged aluminum.* They have finer grain and can better withstand stress—which makes them last far longer than ordinary cast aluminum pistons.

2. *The gear-type lube oil pump is* the most reliable pump for forcing oil to all moving parts of the engine.

3. *The water-circulating pump runs on long-lasting, high-quality steel ball bearings. Lubrication is sealed in* for the life of the pump. No manual greasing is ever needed. Some engines use faster-wearing plain-bearing pumps which must be hand-lubricated.

4. *The fuel transfer pump has a cam-actuated piston-type impeller.* Many engines employ a thin diaphragm-type pump for this critical function.

5. *The engine-lubricated fuel injection pump has four fuel plungers*—one for each cylinder. This gives more precise metering of fuel, more even pressure. Some engines have only one plunger for all four cylinders.

6. *The cylinders and crankcase are cast in one piece.* This construction gives maximum cooling over the cylinder walls. It also eliminates wet cylinder liners and ring seals which are potential leakers of coolant into the oil pan.

7. *Glow plugs are used to insure starting, even in the coldest weather.* You'll never have to use ether to start this engine. This eliminates uncontrolled combustion shocks on the power train. Most diesel engines do not have glow plugs.

8. *Air venting in fuel injection system* makes it unnecessary to disturb the fuel lines for air bleeding.

9. *The stem ends of the intake and exhaust valves are stellite faced.* Stems are chromium plated. This stretches valve life and makes fewer valve adjustments and overhauls necessary.

10. *Water circuit is vented between the cylinder head and thermostat.* This prevents the occurrence of hot spots in the engine under all load conditions.

We'll help you custom-build our 13-40 hp prime mover to suit your needs—including those still on the drawing boards. (We also make the "636" in a horizontal model only 18 inches high.)

For complete data on the Mercedes-Benz OM 636, send for a free 8-page brochure. Write to Daimler-Benz of North America, Inc., Industrial Division, 126-56 Northern Boulevard, Flushing, Long Island, N.Y. 11368. Or simply phone (212) 899-4000.

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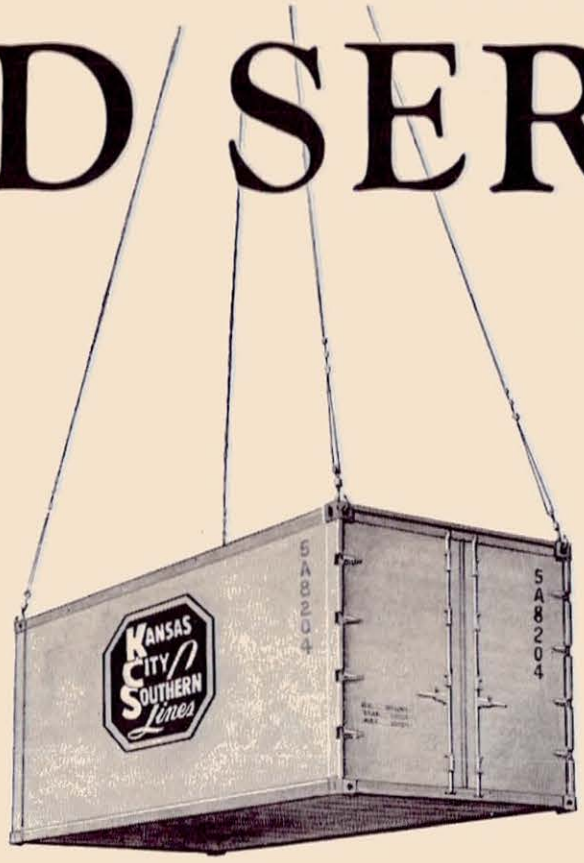

This is the age of convenience, the era of better packaging, the period of containerization, the time of Kansas City Southern.

If you import and export, and are using containers, you are in step with progress. You are serving your customers faster and more economically.

You are enjoying more profits.

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KANSAS CITY SOUTHERN Lines

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Circle 38 on coupon page 77

Market Outlook

CARLOADINGS

Loadings of revenue freight in the week ended April 18 totaled 538,271 cars, the Association of American Railroads announced on April 23. This was an increase of 3,199 cars, or 0.6%, compared with the previous week; a decrease of 4,922 cars, or 0.9%, compared with the corresponding week last year; and a decrease of 20,388 cars, or 3.6%, compared with the equivalent 1968 week. Ton-miles generated by carloadings in the week ended April 18 are estimated at 15.1 billion, an increase of 3.6% above the corresponding week of 1969, and 4.3% above the 1968 week.

REVENUE FREIGHT CARLOADINGS

Commodity	Apr. 11 week	Apr. 4 week
Grain	25,361	25,435
Farm products	12,480	12,109
Metallic ores	27,300	24,696
Coal	105,841	90,489
Crushed stone, gravel & Sand	27,246	24,389
Nonmetallic minerals	9,284	9,344
Grain mill products	18,962	18,211
Food & kindred products	24,918	24,817
Primary forest products	25,243	23,353
Lumber & wood products (except furniture)	15,066	15,031
Pulp, paper & allied products	25,140	24,796
Chemicals & allied products	34,148	31,767
Petroleum products	10,367	10,103
Stone, clay & glass products	21,028	19,110
Coke	8,599	8,111
Metals & products	29,973	27,421
Motor vehicles & equipment	22,457	18,320
Waste & scrap materials	16,102	15,377
Forwarder & shipper assn. traffic	6,800	6,919
All other carloads	67,634	66,301
LCL traffic	1,123	1,164
Total cars loaded	535,072	497,263

CUMULATIVE TOTAL, 15 WEEKS	1970	1969	1968
	7,483,451	7,627,017	7,717,229
Estimated Revenue ton-miles (billions) 15 weeks	215.4	213.4	209.6

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended April 11 totaled 22,648 cars, carrying 37,255 trailers, compared with 24,761 cars, carrying 40,366 trailers, in the corresponding 1969 week. Loadings for 1970 up to April 11 totaled 366,514 cars, carrying 621,898 trailers, compared with 379,848 cars, carrying 622,396 trailers, in the corresponding period of 1969.

FREIGHT-TRAIN CARS

● *Bangor & Aroostook.*—Directors have authorized the purchase of an additional 50 jumbo mechanical refrigerator cars for hauling frozen foods. The cars, costing $1,740,000, will be built by Pacific Car & Foundry and will bring the road's ownership of such cars to 353. Also, BAR will purchase a heavy-duty trackmobile at a cost of $50,000, for use at its Derby shops.

● *Burlington Northern.*—Ordered 100 100-ton open-top hopper cars from Darby Corp. at a cost of $1.4 million. Deliveries are scheduled for July/August.

● *Frisco.*—Ordered 300 50½-ft, 70-ton box cars from Pullman-Standard at a cost of $4.5 million. Cars will be equipped with high-strength floors, plug doors and roller-bearing trucks. Deliveries are scheduled to begin in August from the P-S plant at Bessemer, Ala.

● *Penn Central.*—Ordered 137 box cars from its Samuel Rea Shop, Hollidaysburg, Pa., at a cost of $5.1 million. The cars will be 86 ft long and of high-cube design to transport automobile parts in loads up to 100 tons. They will go into service during the second quarter.

● *Trailer Train.*—Ordered 247 new 89 ft, 4-in. standard level cars as follows: from Bethlehem Steel, 155 cars; from Pullman-Standard, 92 cars. This brings TTX orders since Jan. 1 to 1,058 cars. As of April 8, Trailer Train had 55,906 cars in service or on order.

● *March bad order ratio 0.4% higher than last year.*—Class I roads on March 1, 1970, owned 1,435,443 freight cars, 19,344 fewer than on March 1, 1969, according to AAR report summarized below. Bad order ratio was 0.4% higher than on March 1, 1969.

	March 1, 1970	March 1, 1969	Change
Car ownership	1,435,443	1,454,787	−19,344
Waiting repair	81,005	76,310	+ 4,695
Repair ratio	5.6%	5.2%	+ 0.4%

LOCOMOTIVES

● *Gulf, Mobile & Ohio.*—Ordered 10 2,000-hp diesel-electric units from EMD at a cost of approximately $2 million.

● *Penn Central.*—Ordered 15 3,300-hp diesel-electric freight locomotives from General Electric at an approximate cost of $3.7 million. Delivery is scheduled to begin in May. The order brings PC's new-locomotive acquisitions so far this year to 127 units, costing $26.7 million. In addition, PC will rebuild and modernize 60 diesel-electric locomotives at a cost of about $5 million. Thirty of the units are 1,500-hp branch-line freight and heavy-duty switching locomotives. They will be rebuilt at the road's Collinwood, Ohio shops. The other 30 are 1,000- and 1,200-hp switchers, which will be modernized (and all upgraded to 1,200 hp) at the Altoona, Pa. Works.

TRANSIT

● *New York City Transit Authority.*—General Railway Signal has received a contract amounting to over $1 million from Westinghouse Electric for car-carried signaling equipment to be installed on 240 subway cars being built for NYCTA. The onboard equipment will provide for cab signals with overspeed control, automatic speed regulation and programmed station stopping.

● *Southeastern Pennsylvania Transportation Authority.*—Has asked leading manufacturers to bid on construction of 144 commuter cars for use on Penn Central and Reading.

● *Washington Metropolitan Area Transit Authority.*—Norair Engineering Corp., Washington, has submitted the apparent low bid ($12,329,784) on construction of nearly half a mile of tunnel in the Union Station area. Norair's bid for the cut-and-cover work was 7% below WMATA's official estimate.

NEW FACILITIES

● *Chicago South Shore & South Bend.*—Will build a new passenger station/office building in South Bend, Ind., at a cost of approximately $100,000. Completion is scheduled for June 1.

● *Penn Central.*—Will expand TOFC/COFC facilities at Chicago, at a cost of $623,000. A 60-car loading/unloading strip will be installed at PC's Englewood Yard; additional parking area will be provided at both Englewood and 55th Street Yard. Both projects are scheduled for completion in May. In addition, PC plans to expand its Enola, Pa., diesel locomotive inspection and repair shop at a cost of $500,000. Additions, scheduled for completion in April 1971, will be built on the north, east and west sides of the facility; a second story is to be added above the office area, and all four shop tracks will be extended.

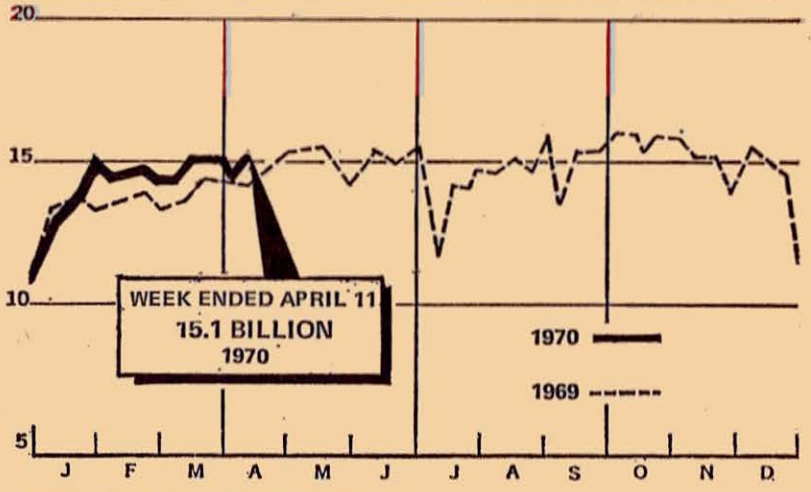
● *T/M Leasing.*—Will set up regional trailer-maintenance centers at Atlanta, St. Louis, Nashville, Chicago, Louisville and New Orleans to provide service for Louisville & Nashville, which has 1,000 piggyback trailers on lease from T/M Leasing.

MAINTENANCE OF WAY

● *Penn Central.*—Is moving forward on a 2,000-mile, $12-million M/W program in its Eastern Region. The program includes more than 1,000 miles of tie renewal and smoothing work and 75 miles of rail replacement. Also, PC will clean 600 miles of ballast to improve drainage, and grind the riding surface of 100 miles of its high-speed Metroliner trackage between Washington and New York.

RAIL FREIGHT TRAFFIC TRENDS

BILLION TON MILES (Estimated)



Source: Association of American Railroads

SHIPMENTS OF RAILROAD STEEL PRODUCTS

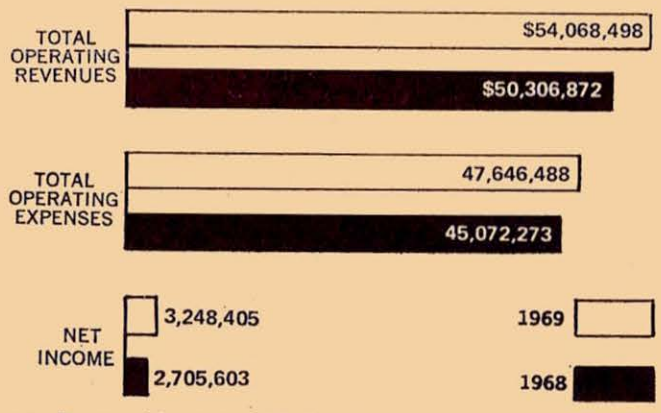
(FEBRUARY AND 2 MONTHS 1970)

	NET TONS			
	February	Per Cent Change*	Two Months	Per Cent Change*
Rails, trackwork and equipment	103,531	−1.7	193,460	−0.4
Freight and passenger cars and locomotives	196,680	10.2	400,120	1.4
Street railways and rapid transit systems	2,106	14.3	5,178	−21.5

*Per cent change compares 1969 periods with like 1968 periods.
Source: American Iron and Steel Institute.

FREIGHT FORWARDERS—SELECTED STATISTICS

(THIRD QUARTER 1969 AND 1968)



Source: Bureau of Accounts, ICC. Compiled from 67 quarterly reports of forwarders with annual gross revenues of $100,000 or more.

All statistics compiled, computed and formatted by TRADE*QUOTES Division of National Information Services, Inc. Cambridge, Mass. 02139

RAILWAY AGE Stock Report

TWO WEEKS ENDED FRIDAY, APRIL 17, 1970

	PRICE 1970 RANGE (1)	PRICE 1 YEAR AGO	PRICE CLOSE APR 17 1970	PRICE 2 WKS NET CHNG	PRICE 2 WKS PCT CHNG	VOLUME 2 WKS IN 00'S	VOLUME LAST 2 WKS 00'S	VOLUME AVGE IN 00'S (2)	INDEX PRICE JAN 2 1970	INDEX CHNG TO DATE (1)	INDEX PCT CHNG
RAILROADS											
BURLINGTON NORTHERN	37- 41	N/A	37 3/4	-2 1/2	-6.2	692	2924	1044	40 5/8	-3	-7.0
CHESAPEAKE & OHIO	52- 59	67 3/4	55	-2	-3.5	334	221	273	54 3/4	0	+0.4
CHIC MILW ST.P & PAC	16- 20	44 3/8	17	-2	-10.5	444	729	510	16 3/8	+1	+3.8
CHIC, ROCK ISL & PAC	19- 22	27 7/8	20 1/4	-1	-4.7	39	41	47	19 3/4	+1	+2.5
DERECO PFD B	52- 64	66 5/8	59 3/4	-1 1/4	-2.0	64	43	48	53 3/4	+6	+11.1
GULF, MOBILE & OHIO	65-175	93 7/8	76 3/4	+6 3/4	+9.6	40	27	33	63 1/2	+13	+20.8
LOUISVILLE & NASHVLL	70- 74	84	70 1/4	-1	-1.4	46	112	88	71 1/4	-1	-1.4
MISSOURI PACIFIC A	63- 68	80 1/2	64 3/4	-4 1/4	-6.1	18	7	12	63 1/4	+2	+2.3
NORFOLK & WESTERN	78- 86	100	83 1/2	- 5/8	-0.7	229	360	610	83 1/2	0	0.0
READING CO	11- 17	18 5/8	13 1/4	0	0.0	161	62	132	12 1/4	+1	+8.1
ST LOUIS-SAN FRNCSCO	40- 45	49 5/8	41 1/8	-2	-4.6	118	66	109	40 3/8	+1	+1.8
SOO LINE	25- 31	37 1/4	29 1/4	- 1/2	-1.6	40	28	51	27 1/4	+2	+7.3
SOUTHERN	44- 50	58 3/8	49 3/8	+ 5/8	+1.2	291	602	449	46 3/4	+3	+5.6
WESTERN PACIFIC	15- 23	37 1/2	18	-2 5/8	-12.7	520	250	367	19 1/2	-2	-7.6
DIVERSIFIED COMPANIES											
CANADIAN PACIFIC	62- 75	83 7/8	62	-1 1/2	-2.3	77	103	166	73 1/2	-12	-15.6
ILLINOIS CENTRAL IND	26- 31	39 3/4	27	-2 7/8	-9.6	158	285	803	30 5/8	-4	-11.8
KATY INDUSTRIES	10- 14	19 7/8	10 7/8	- 1/4	-2.2	136	160	277	10 5/8	0	+2.3
NORTHWEST INDUSTRIES	12- 17	25 1/8	15 1/4	-1	-6.1	956	1692	1517	13 3/4	+2	+10.9
PENN CENTRAL CO	21- 35	53 3/4	21 1/4	-1 7/8	-8.1	1259	1814	2196	29 1/2	-8	-27.9
RIO GRANDE INDUST	11- 14	N/A	12 3/4	+ 1/2	+4.0	221	198	174	11 3/4	+1	+8.5
SANTA FE INDUSTRIES	23- 26	30 1/2	25 7/8	0	0.0	991	2021	1496	25	+1	+3.5
SOUTHERN PACIFIC CO	31- 37	39 1/2	34	-1	-2.8	1610	1931	1229	33 1/4	+1	+2.2
UNION PACIFIC CORP	40- 48	N/A	43 1/4	-1 1/8	-2.5	889	1378	825	46	-3	-5.9
MOTOR CARRIERS											
ASSOCIATED TRANSPORT	9- 12	17 7/8	8 3/4	- 1/4	-2.7	91	83	88	11 3/4	-3	-25.5
CONSOL FREIGHTWAYS	24- 31	37	27 3/4	-3	-9.7	587	748	707	28 1/2	-1	-2.6
MC LEAN TRUCKING CO	33- 45	51 3/8	41 1/2	- 3/8	-0.8	57	48	147	44 3/8	-3	-6.4
OVERNITE TRANSPORT'N	18- 23	25 1/8	21 1/8	- 1/8	-0.5	75	131	83	18 5/8	+3	+13.4
PAC INTERMTN EXPRESS	12- 18	28 3/4	16 1/2	+ 1/2	+3.1	516	193	228	15 3/4	+1	+4.7
ROADWAY EXPRESS	20- 27	28 3/4	23 1/2	-1 3/4	-6.9	(3)	-	-	26 1/2	-3	-11.3
TRANSCON LINES	9- 13	20 1/8	10 7/8	-1 3/8	-11.2	1345	425	637	11 1/2	-1	-5.4
YELLOW FRGHT SYSTEM	22- 27	26 3/4	24	-2 1/4	-8.5	(3)	-	-	25 1/2	-2	-5.8
AIRLINES											
AMERICAN AIRLINES	21- 31	35	25 1/4	-1 1/8	-4.2	1144	2833	4233	31	-6	-18.5
DELTA AIR LINES	27- 35	36 1/2	31 1/8	- 7/8	-2.7	1412	1896	1846	30 3/4	0	+1.2
EASTERN AIR LINES	12- 19	25 1/2	15 1/8	-1 3/4	-10.3	1618	2105	2806	15 1/2	0	-2.4
TRANS WORLD AIRLINES	15- 26	41 7/8	15 1/8	-1 5/8	-9.7	2167	6126	2620	23 7/8	-9	-36.6
UAL INC (UNITED)	20- 28	39 5/8	22 3/8	- 5/8	-2.7	823	1381	2281	28	-6	-20.0

ALL BUT TWO OF THE ABOVE SECURITIES ARE LISTED ON THE NEW YORK STOCK EXCHANGE; ROADWAY EXPRESS AND YELLOW FREIGHT SYSTEM ARE TRADED OVER-THE-COUNTER.

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Viewpoint

What can be done to improve car supply and utilization?

With all the proposals that have been made for improving railroad freight-car supply and utilization, you would think that surely one would get unanimous support. Right?

With all the attention that car supply and utilization have received —from railroads, customers, government—you would think that surely there has been significant improvement. Right?

With all the forecasts that have been made for industrial and transportation growth, you would think that even a multi-company industry surely would draw itself together to take full advantage of that growth. Right?

The answers, in order: Wrong, wrong, and maybe.

So far as car utilization is concerned, there is hope. Individual railroads *have* been able to increase the transportation productivity of the freight car. Railroads as a nationwide system have done less well.

So far as car supply is concerned, there is perhaps less hope—if you look only at the record, and fail to consider a growing realization that an industry divided against itself is headed for deep, deep trouble.

Of course, utilization and supply can't be disconnected and considered separately. At the risk of over-simplification, however, it's fair to say that you can't use what you don't have. And regardless of improvements which *may* be made in car utilization, railroads are still faced with a need for car-acquisition programs at a high level.

Present circumstances don't encourage this kind of thinking. Even if you lay aside considerations of tight money and high interest rates, present circumstances within the industry don't encourage the kind of equipment-acquisition programs which seem justified. And that may be one reason why equipment-pool proposals are being made with increasing frequency. A number of people are apparently becoming convinced that traditional car-supply methods are so bogged down in controversy that a whole new approach is needed.

ONE ANSWER: A FEDERAL CORPORATION

Some of these proposals involve action industry-wide, or through a segment of the industry, or through the established machinery of Trailer Train. One proposal goes quite a bit farther, to the establishment of a Federal corporation which would provide tax and capital advantages and debt-guarantees but which would not require funding from the Federal treasury.

Author of this plan—with an assist from people within the industry—is a respected traffic consultant, Fred H. Tolan. First target of the plan, and the Federal corporation, would be improvement in supply of general-service box cars. Capital would be raised via a per-diem surcharge. Stock would be held by railroads on a basis of surcharges paid. Government and shippers would be represented on the board of directors, but railroad representatives would hold six of the 11 seats on the proposed board. The corporation would have full control over car movement and car-use charges.

Tolan calls this "a dramatic new approach." It is that. It's also, perhaps, a measure of the despair in some quarters regarding industry ability (1) to agree upon and (2) to finance adequacy in car supply.

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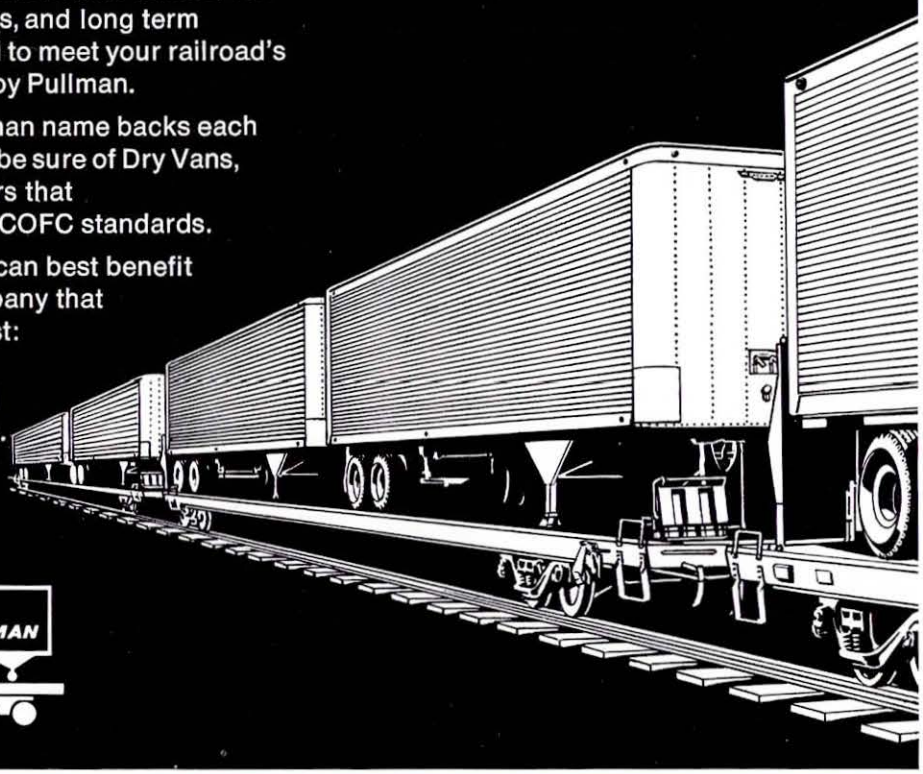

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